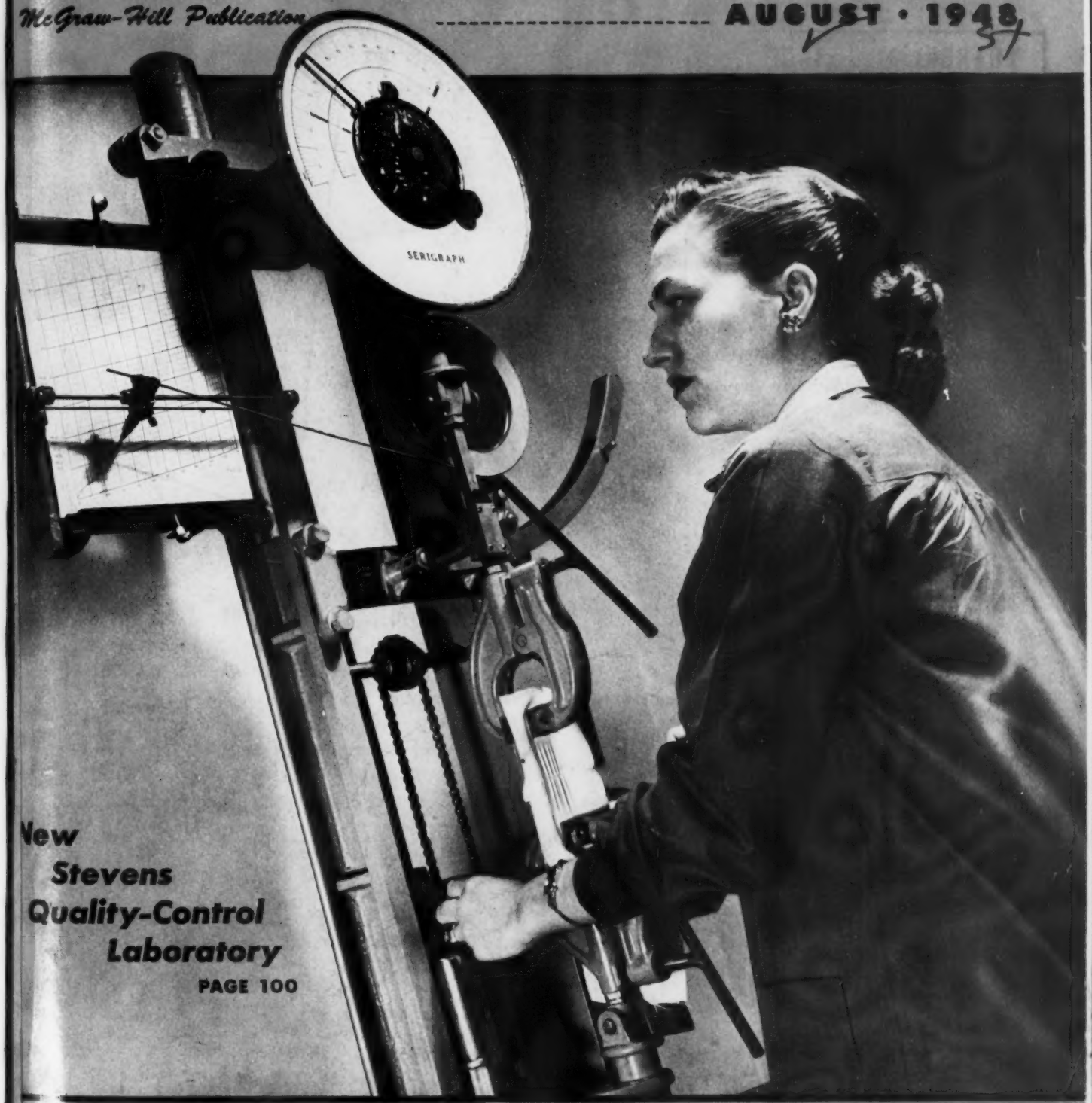
...OLOGY DEPARTMENT

TEXTILE WORLD

McGraw-Hill Publication ---------- AUGUST • 1948



New Stevens Quality-Control Laboratory

PAGE 100

Humidification Cuts PICKER-ROOM FIRES

In addition to more accurate lap weights and other operating advantages, humidification cut opener-picker room fires to 39% of those in similar areas not humidified. Story on page 110.

Do Your Workers Know Where They Stand?

Mutual employer-employee understanding is your responsibility, says Glenn Gardiner. Specific steps to create understanding, prevent worker dissatisfaction, improve supervisory relations, page 150.

SEAMLESS-HOSE Streaks Can Be Eliminated

Streaks in women's 10- and 15-den. seamless hosiery, caused by dirty, imperfect, and improperly operating latch needles, are analyzed photographically, and remedies suggested, page 106.

A Knitting Star . . .

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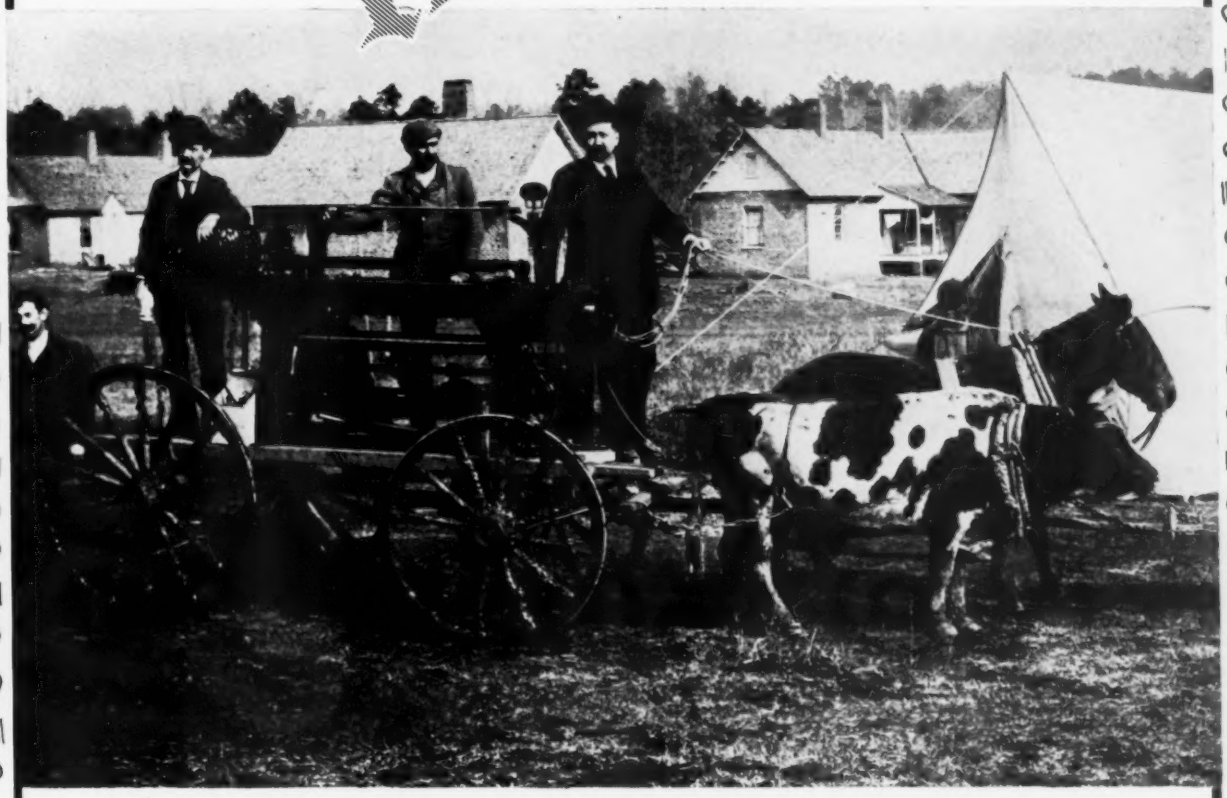
In 1896



When goods were transported by ox cart instead of by high speed motor van, one of the most progressive mills of the day received the new Draper Automatic Loom pictured above. They had become convinced of the practicability of this radically different Loom. The report that a Weaver could tend 16 instead of 4 appealed to them as a practical way of weaving more cloth at less cost.

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AUGUST, 1948

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THE *Long-Range* VIEW

Guesswork IS Work

Anyone who has dealt with the textile industry for any length of time invariably is impressed by the wide divergence of opinions he finds on almost any subject. There are virtually no aspects with universal agreement. We editors see major differences of opinions every working day.

For example, our attention was called to a new starch addition that some mill men thought wonderful and some technicians scoffed at. For another example, think of the range of opinions regarding "shuttleless" and circular looms. To see really wide areas of disagreement, just talk with any two or more wool-mill men!

The differences one notes come from honest beliefs, for the most part. Mill men form their opinions from their experiences, but do not always take into account the many possible variables, which is understandable because the factors are most complex. Some such factors are fineness or array of staple, evenness or strength of yarn, uniformity of stitch, accuracy of pick, or affinity for a particular dye. The ones named are just a few that are obvious.

Usually when a mill man wants to improve or otherwise alter a product he is manufacturing, he makes a change that experience dictates. He may have warps that shed badly, so he increases starch content from 0.9 lb. per gal. to 1 lb. The warps stop shedding (we hope), and the problem is solved. Or is it? How does he know that one of a dozen other factors was not responsible for the shedding?

A knitter has walewise streaks, so he pliers his needles, or changes some, and the streaks stop. Maybe a little cleaning up would have given him the same result.

In both illustrations as given, guesswork was involved. We assumed that it worked, but in actual experience guesswork often does not. Then more and more guesswork is tried and tried until the problem is "solved" or given up as hopeless. The vexing aspect is that with such procedures (1) the exact cause of the trouble is seldom known and (2) the step that is thought to correct the trouble may not have been the one.

With all the aids that textile mill men now have, guesswork should be relied on less and less. Let's take that example of shedding size. Perhaps the shedding was caused by lack of fat—that could be determined by extraction tests. Perhaps the warps were too dry—moisture content could quickly be tested. Of course, there are many other possibilities; the most likely should be checked first.

The foregoing tacitly assumes that standards are available against which to test. There certainly should be. It is as feasible and important to know conditions under which work runs well as to know those under which work runs poorly. As many aids are available for measuring one as the other. In the long run less work will be involved in getting the facts than in operating on guesswork.

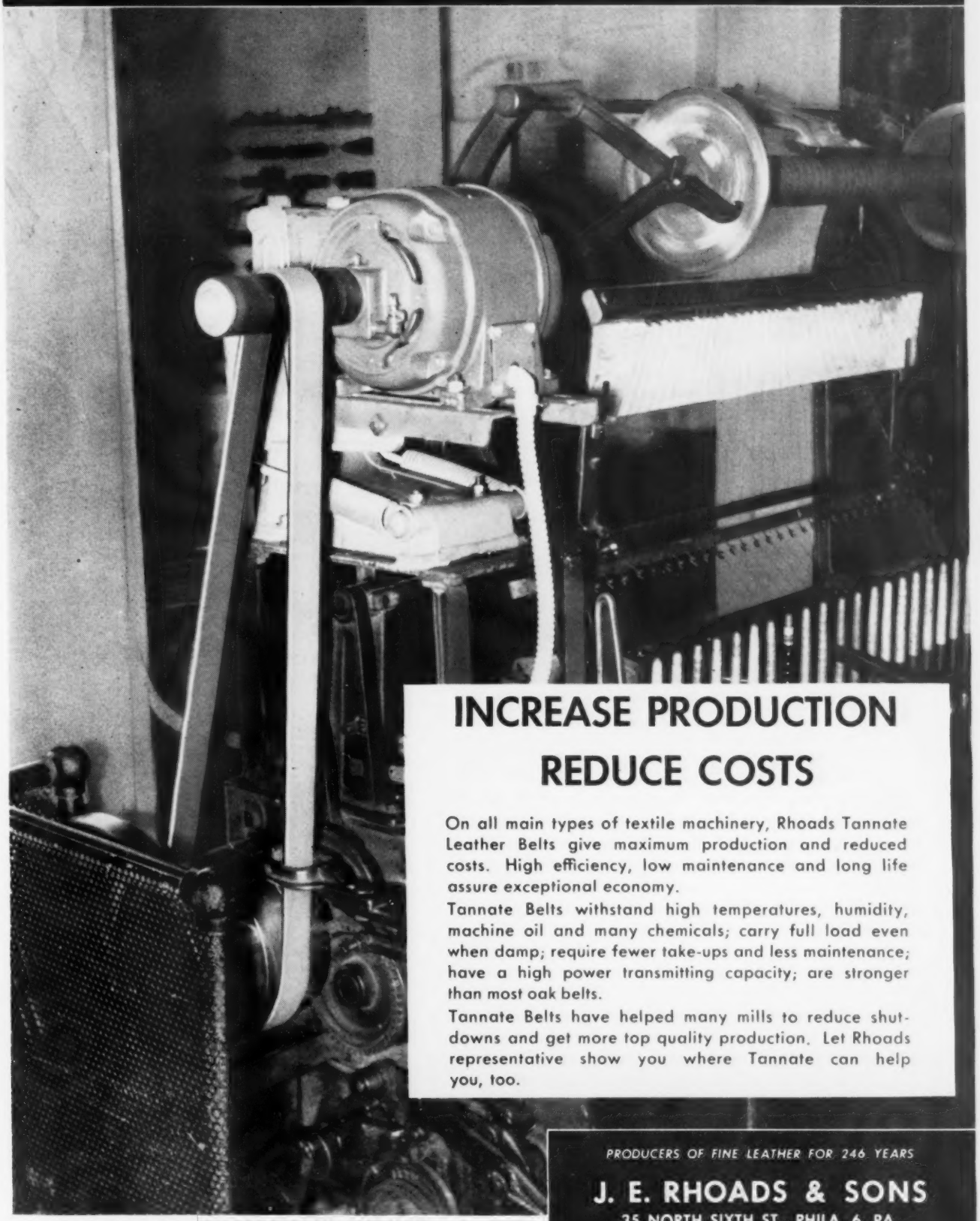
Benefits from getting facts can be cumulative if a continuing program is carried out. It is not enough, as already hinted, just to confine work to solving problems as they arise. At least two other functions are needed: A recording of data for later use, should the same or similar problems occur, and recording and evaluating of fundamental data.

Almost everyone will agree to the need for the first, but the second is the one that really pays off in forestalling trouble. The value of avoiding trouble is hard to determine—who can tell how much was saved by trouble that was avoided?

Textile operations will probably always call for some guesswork, but it is encouraging to note that the amount in our progressive mills is getting less and less.

C. H. Bendigo

RHOADS *Tannate* LEATHER BELTS



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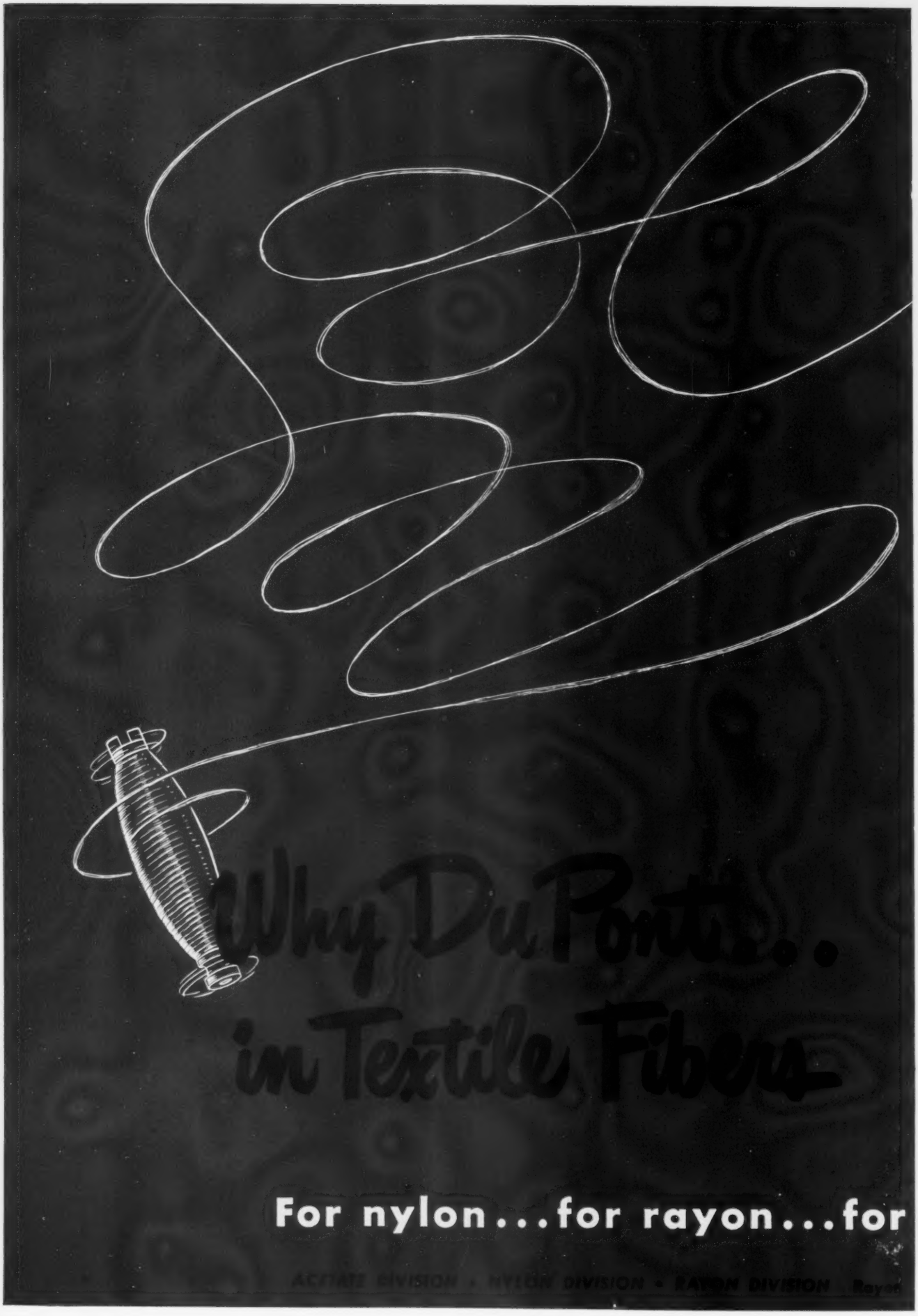
Why DuPont...
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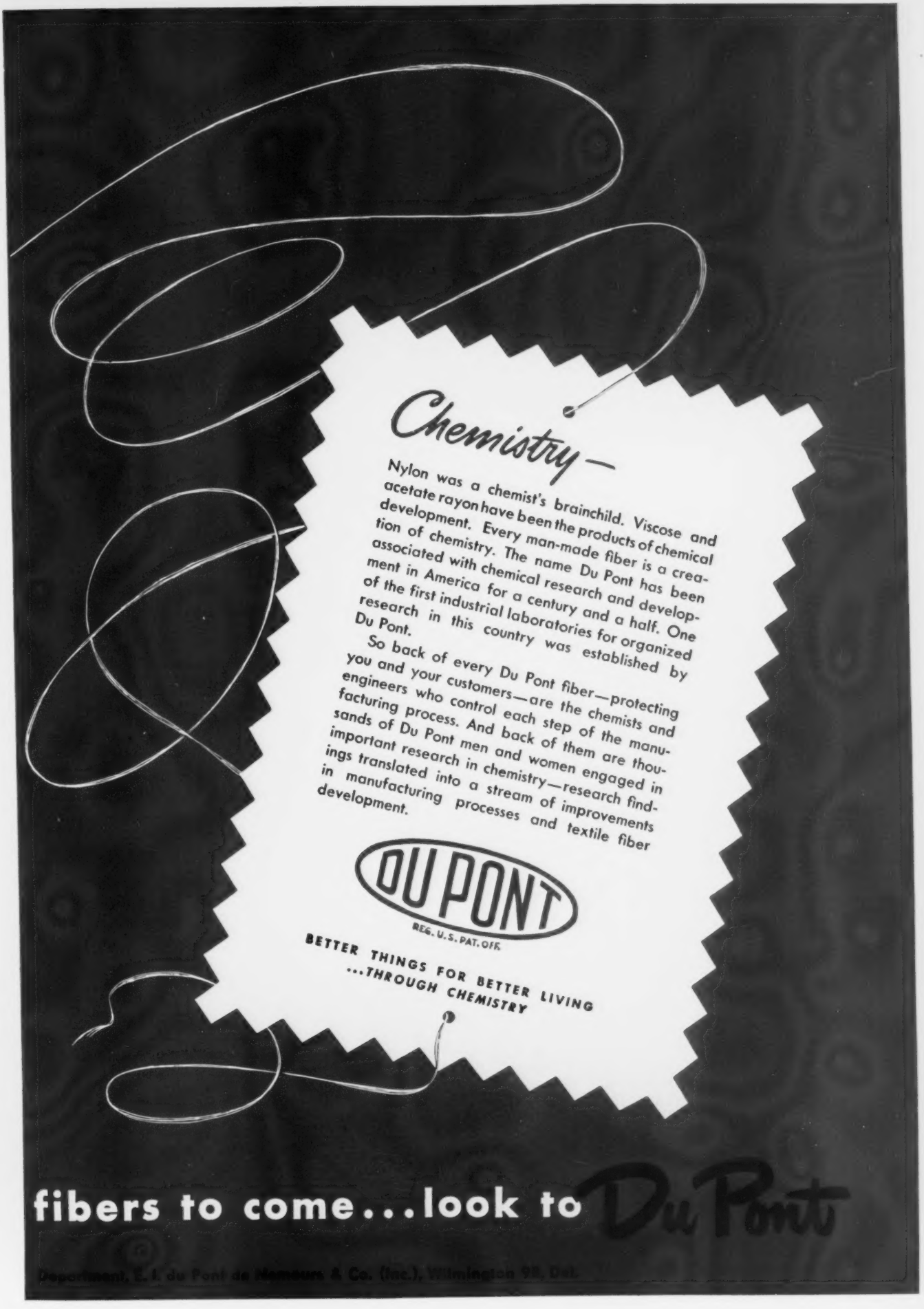
For nylon...for rayon...for


Chemistry—
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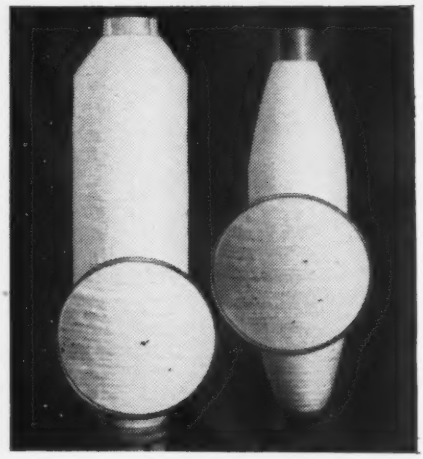

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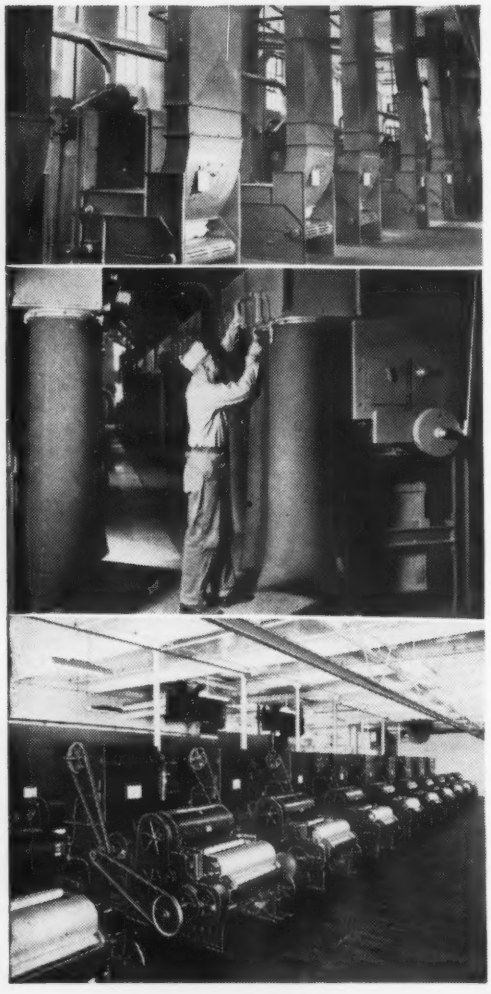

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(*Top*) Chutes from blending room to blending feeders
(*Center*) An impressive line of No. 6 Air Filters
(*Bottom*) Pickers in a large Southern mill

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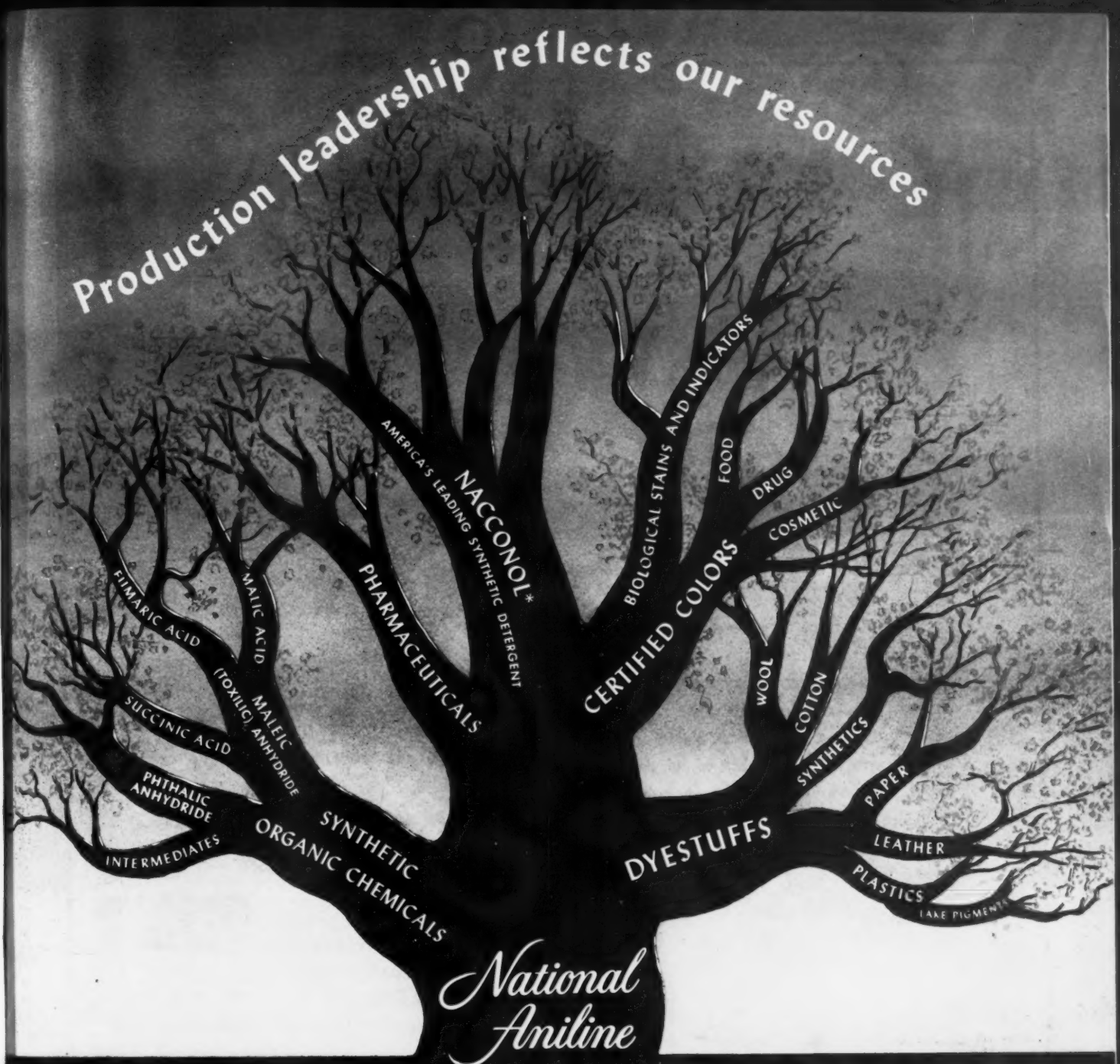

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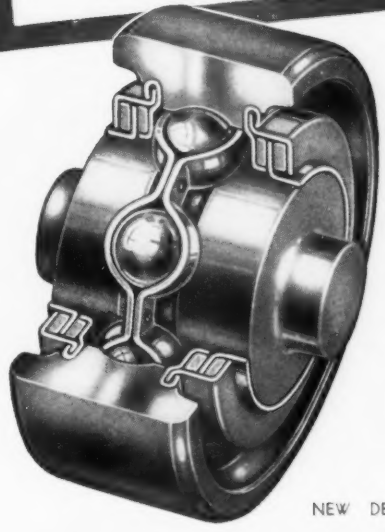

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WHITIN BI-COIL DRAWING FRAMES

Wouldn't you save money if you could increase available card room floor space, cut can costs and sliver deliveries in half and still maintain the same production and sliver quality? Of course you would. And you can do just that by installing Whitin Bi-coil drawing frames.

Oscillating can tables, a patented feature of the Bi-coil system, have successfully solved the problem of handling twin slivers. The sliver is free from twist due to the improved can motion and its quality is improved by the use of lower drafts. Bi-coil also provides easier creeling and cleaning for the operators. You'll find that Bi-coil Drawing is a factor essentially important to your mill investments.

Write today for our illustrated folder giving complete details and specifications of Bi-coil Drawing Frames

Whitin MACHINE WORKS

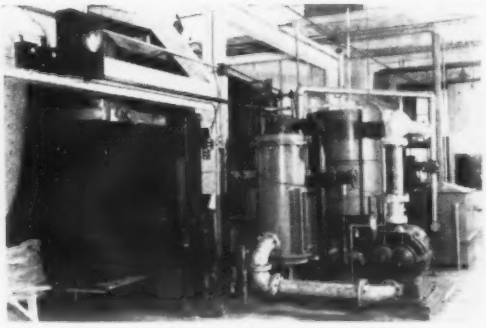
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.

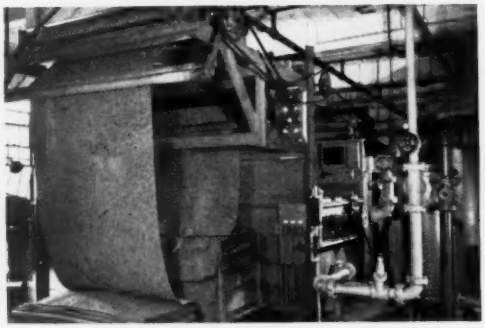
The Fleet Line

DERBY DRY CLEANER

VERSATILITY Is A Leading Characteristic



Installation in a New England mill making women's wear woolens.



Installation in a Maryland mill making cassimeres, flannels, tweeds and shetlands.

Fabrics now being handled by this machine include woolens, worsteds, rayon mixtures and mohair plushes. Although it involves a considerable investment and volume production, many machines are now in use. Constant improvement in design, greatly decreased solvent consumption and tremendous operating economies account for its popularity.

ADVANTAGES

1. Removal of tar, paint, asphalt, creosote, pigment, chalk, etc.
2. Almost any type of wool oil can be used — even cheap mineral oils.
3. Tremendous savings in oil, through reclamation.
4. Elimination of stream contamination from oil residue.
5. Reduces burling and mending.
6. Great reduction in perching.
7. Minimum oil content in the finishing room.
8. Scouring usually eliminated.
9. Little or no soap required.
10. Big saving in hot water.
11. Possibilities in acid fulling of Derby Dry Cleaned fabrics.
12. Reduction in redyes and seconds.

Circular on request

RIGGS AND LOMBARD

INCORPORATED

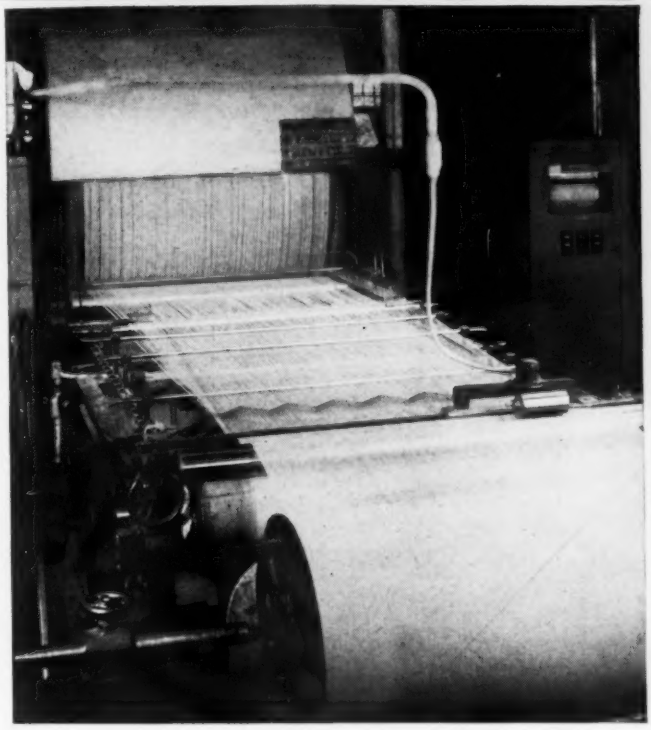
FOOT OF SUFFOLK STREET • LOWELL, MASSACHUSETTS

Agents: Paul A. Merriam, 1491 Broad Street, Providence, R. I.;
Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa.

THE FLEET LINE OF FINISHING EQUIPMENT

Cloth Washers — Batch and Continuous • Fulling Mills • Piece Dye Kettles • Dye Becks Rope Soapers • Cloth Carbonizing Ranges • Soaping Machines • Derby Continuous Dry Cleaners • Tenter Dryers • Top Dyeing Machines • Crushers • Multi-Lap Continuous Process Machine • Stock Dye Kettles • Rolls • Reels • Parts

Less Sticking on Slasher Drums



Reduced Breakage in Weaving

New S/V Weavrex 200

Gives Improved Results in Weaving Cotton Cloths

★ ***Easily Removed in De-sizing Operations*** ★

Proved highly successful in extensive tests by leading textile mills, a new Socony-Vacuum product... S/V Weavrex 200... is now available for use in making up warp sizing mixtures.

Outstanding among its advantages is a pronounced reduction of the common tendency of sized yarns to stick to the drying cylinder of the slasher.

Tests also show high weaving efficiency and less shedding.

The new oil is thoroughly compatible with fast and slow boiling starches, gums, binders and other materials used in sizing yarns. It has no objectionable or rancid odor; and is light stable. It has desirable wetting properties, and is easily removed in de-sizing operations—a feature that means considerable savings in time and expense.

Added to these advantages, is its moderate cost. Ask your Socony-Vacuum Representative for recommendations for use in your particular warp-sizing applications.

SOCONY-VACUUM OIL COMPANY, INC.
26 Broadway, New York 4, N. Y., and Affiliates:
MAGNOLIA PETROLEUM COMPANY
GENERAL PETROLEUM CORPORATION

Better Processing for ALL Textiles

Woolens . . . S/V Woolrex Oils improve carding and spinning. Scour out easily.

Worsteds . . . S/V Worstex Oils lubricate stock uniformly. Improve spinning.

Water Repellents . . . S/V Products give maximum repellency with minimum amounts.

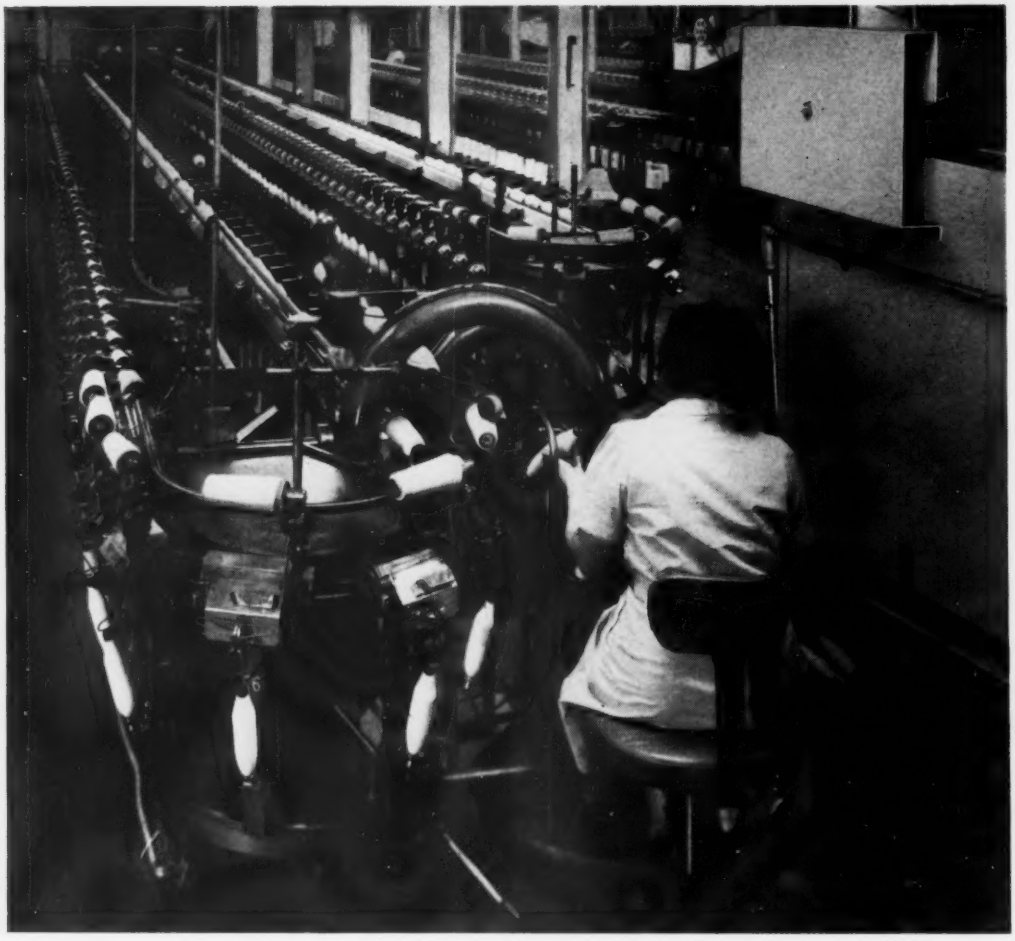
Finishing . . . S/V Finishing Oils give excellent wetting, re-wetting and softening effects.

Shrinkage Process . . . S/V Finishing Oils insure quick, uniform re-wetting.

Rayon Processing . . . S/V Rayon Oils add softness to rayon fibers.

Socony-Vacuum Process Products

Process Products
SOCONY-VACUUM



Reduce Operator Fatigue and

Increase Winding Production

with

ABBOTT Automatic WINDERS

Carboloy Inserts in all Thread Guides
a Feature Improvement in Winding Worsted, Wool and Spun Fiber Yarns!

A new long-lasting feature and one of the biggest winder improvements in years, particularly to the mill that winds wool, worsted, or spun fiber yarns, is the Abbott carboloy steel insert on all thread guides.

The Abbott principle of a moving assembly line reduces operator fatigue to a minimum. Operators sit down while working, set full bobbins in a rotating magazine and doff full bobbins — ONLY TWO OPERATIONS FROM ONE COMFORTABLE POSITION.

The result is more bobbins tied in per hour than on any other equipment, increasing your winding production. Some installations are producing up to 1000 bobbins per hour per operator.

ONLY ONE OPERATOR PER ABBOTT *Automatic* WINDER. Regardless of the length of the machine, which is determined by the average yardage of bobbins to be run out in one circuit, only one operator per machine is required — a saving in operational overhead cost results, as floor labor is largely eliminated in this modern method of winding.

Write for further information to:

ABBOTT MACHINE COMPANY
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE, GREENVILLE, S. C.

SANDOZ PRESENTS *The color achievement of the month*

Light On The Subject BY GOODALL FABRICS, INC.

These fabrics — upholstery and drapery — are representative of the fine ideas in color, design and texture coming from the looms of Goodall-Sanford, Inc.

Imagine the "lift" a room gets from these luminous yellows and soft greens — summertime colors for year-'round living rooms.

Helping Goodall to put its color ideas into cloth are the facilities of Sandoz — whose dyestuff research chemists bend their efforts continually to keep up, technically, with the inspirations of its customers' designers... as well as the demands of production men for highest possible efficiency in the dyeing operation.

Among Sandoz' "color achievements" are such wool color specialties as the following — which offer the maximum in color fastness for drapery and upholstery materials and clothing: **AZO RUBINOL 3GP . . . XYLENE FAST YELLOW 2GP . . . ALIZARINE LIGHT BLUE 4GL . . . ALIZARINE LIGHT BLUE 5GL . . . ALIZARINE LIGHT BROWN BL . . . BRILLIANT ALIZARINE MILLING BLUE BL . . . BRILLIANT ALIZARINE MILLING BLUE G . . . BRILLIANT ALIZARINE MILLING BLUE SL.**

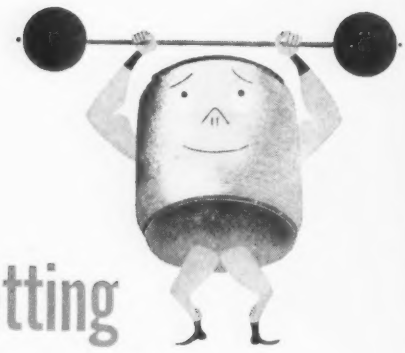
For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

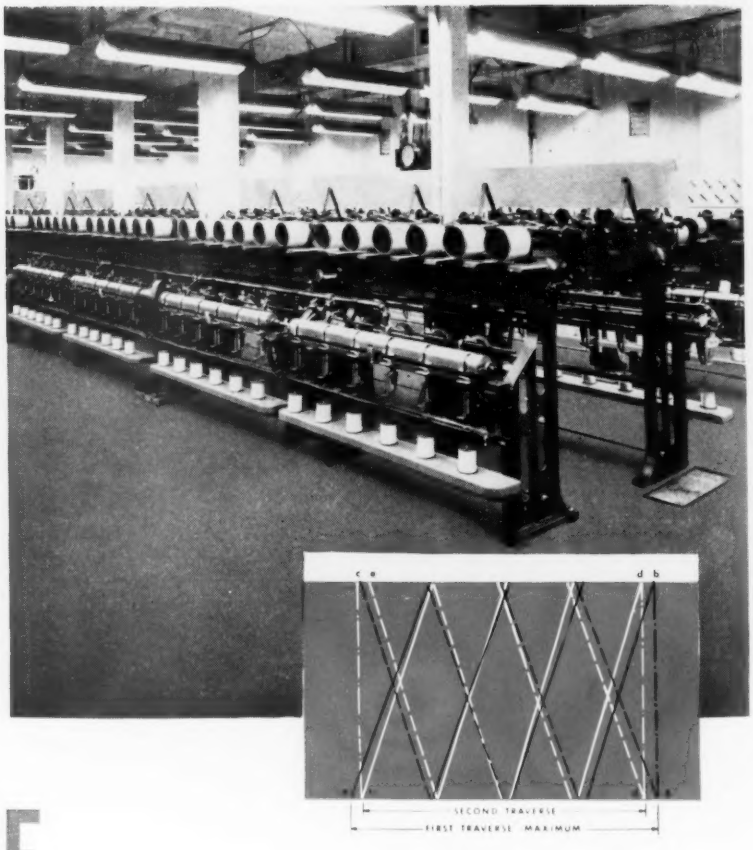
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Los Angeles, Toronto. • Other branches at Providence, Paterson, Chicago.

SANDOZ *thinks ahead with textiles*

SANDOZ



Getting NYLON INTO SHAPE



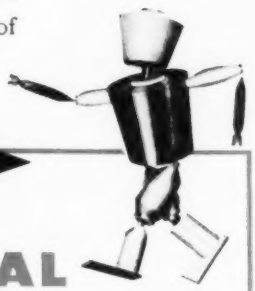
FOR MORE SUCCESSFUL CONING

Nylon yarn sized on the No. 250B Universal Sizing Machine takes a shape that is perfect for free delivery on the No. 50 Universal Coning Machine.

A special traversing arrangement causes the yarn to be laid on the tube in alternately longer and shorter layers, resulting in tapered selvedges. Yarn delivers more freely from this shape of tube.

Another advantage of the unique shape of the Universal Sizing Tube is that due to the ever-changing traverse, the wind is more "open", providing better air circulation and faster, more thorough drying.

A high percentage of repeat orders from throwsters indicates the success of the Universal system.



LEESONA

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland. *Agents in every principal textile center throughout the world.*

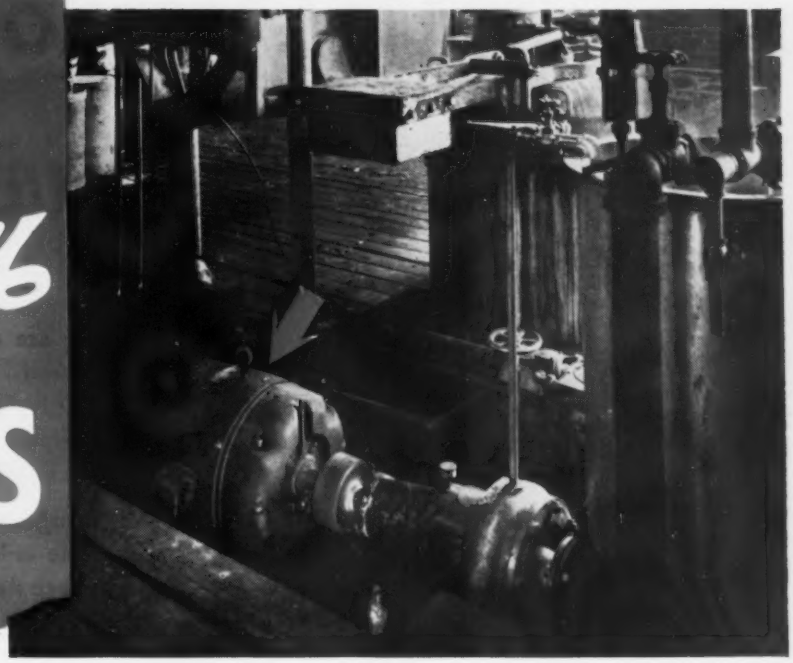
UNIVERSAL NYLON SIZING AND CONING

used by more throwsters than any other method.

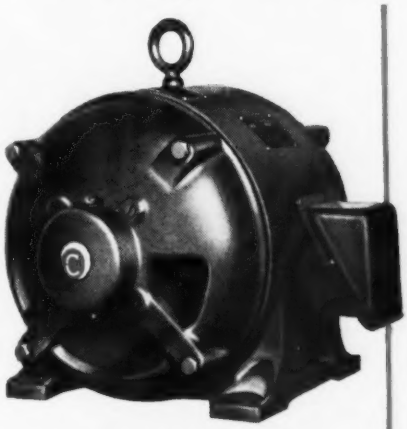
Universal, with its Atwood Division, builds a complete line of throwing machinery.

Properly Protected Century MOTORS

Century 10 horsepower Splash Proof Squirrel Cage Motor driving a pump in a dye works.



Help Maintain Continuous Production



Century Open Rated Drip Proof Motor

The right Century motor to meet the load requirements, plus the right motor frame and insulation to protect the vital parts from hazardous atmospheres, is a combination that provides top performance.

Century open-rated Drip Proof motors meet nearly all requirements where atmospheres are not charged with abnormal quantities of dirt, abrasives or chemicals.

Century Splash Proof motors eliminate production losses due to dripping or splashing liquids or falling solids.

Century Totally Enclosed Fan Cooled Motors protect against such hazards as abnormal quantities of abrasive dusts, dirt and corrosive fumes. Special insulation is available for extreme cases.

Century motors are ruggedly built — quiet starting — smooth running, and unusually free from vibration. They are built in a wide range of types, in sizes from 1/6 to 400 horsepower.

Specify Century motors for all your electric power requirements.

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri

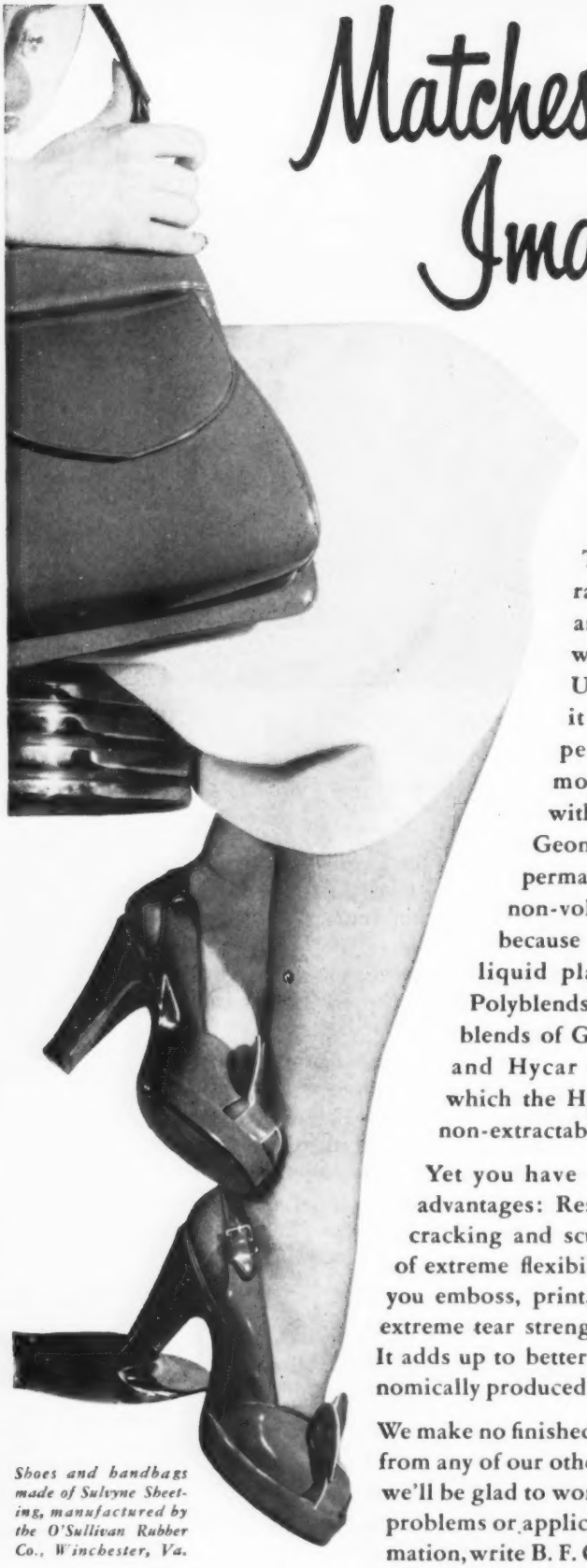
Offices and Stock Points In Principal Cities

Century Splash Proof Motor

Century Totally Enclosed Fan Cooled Motor

Century C MOTORS -587

Matches THAT SET YOUR Imagination on Fire!



Shoes and handbags made of Sulvyne Sheeting, manufactured by the O'Sullivan Rubber Co., Winchester, Va.

Here are examples of the versatility of Geon polyblends. These matching handbags and shoes are simply the starting point for a great array of new products in many fields still to come. Geon polyblends—and your imagination—will produce them.

Take styling: Geon gives you the complete range of the color spectrum—and from deep dark to pure white. Take manufacturing: Until Geon polyblends, it was impossible to permanently cement most products made with vinyl resins. This Geon polyblend gives you permanent cementability—is non-volatile and non-migratory because in most applications no liquid plasticizer is necessary. Polyblends are special colloidal blends of Geon polyvinyl resins and Hycar nitrile rubbers in which the Hycar acts as a solid, non-extractable plasticizer.

Yet you have all the other Geon advantages: Resistance to oil, age, cracking and scuffing; your choice of extreme flexibility or rigid sheets; you emboss, print, heat-seal; you get extreme tear strength, tensile strength. It adds up to better products more economically produced. It opens new markets.

We make no finished products from Geon—or from any of our other raw materials. However, we'll be glad to work with you on any special problems or applications. For more information, write B. F. Goodrich Chemical Co., Dept. M-4, Rose Bldg., Cleveland 15, Ohio.

B. F. Goodrich Chemical Company

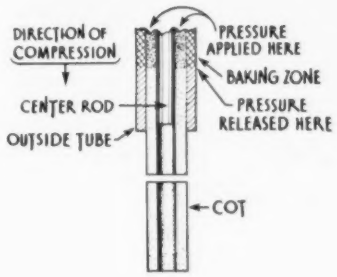
A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals

Armstrong's Cork Cots

DRAFT UNIFORMLY—WON'T SLICK

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Extruded Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn, lasts longer.

The seamless surface of Armstrong's Cork Cots grips the yarn evenly. This surface won't slick up because cork, with its many-sided cells, keeps its high frictional properties over long service periods. Thus you consistently get uniform drafting and top-quality yarn.

Cork's high coefficient of friction eliminates eyebrowing, too. Armstrong's Cork Cots reduce clearer waste as much as 50%—and place waste well back on the clearer boards. This means cleaner work, less clearer picking.

Armstrong's Cork Cots are also exceptionally resilient. They recover quickly from most laps or hard ends. They give you fewer ends down per thousand spindle hours, so your operators do less piecing up. They won't flow under roll weighting.

Low in first cost, Armstrong's Cork Cots have a long initial service life. When they do show wear, they can be rebuffed for 3 or 4 extra service lives.

Ask your Armstrong representative for samples, prices, and complete information. Or write today to Armstrong Cork Company, Textile Products Dept., 8308 Arch St., Lancaster, Pa.

ACCOTEX IS A REGISTERED TRADE-MARK.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

A-P-T YARN CARRIERS

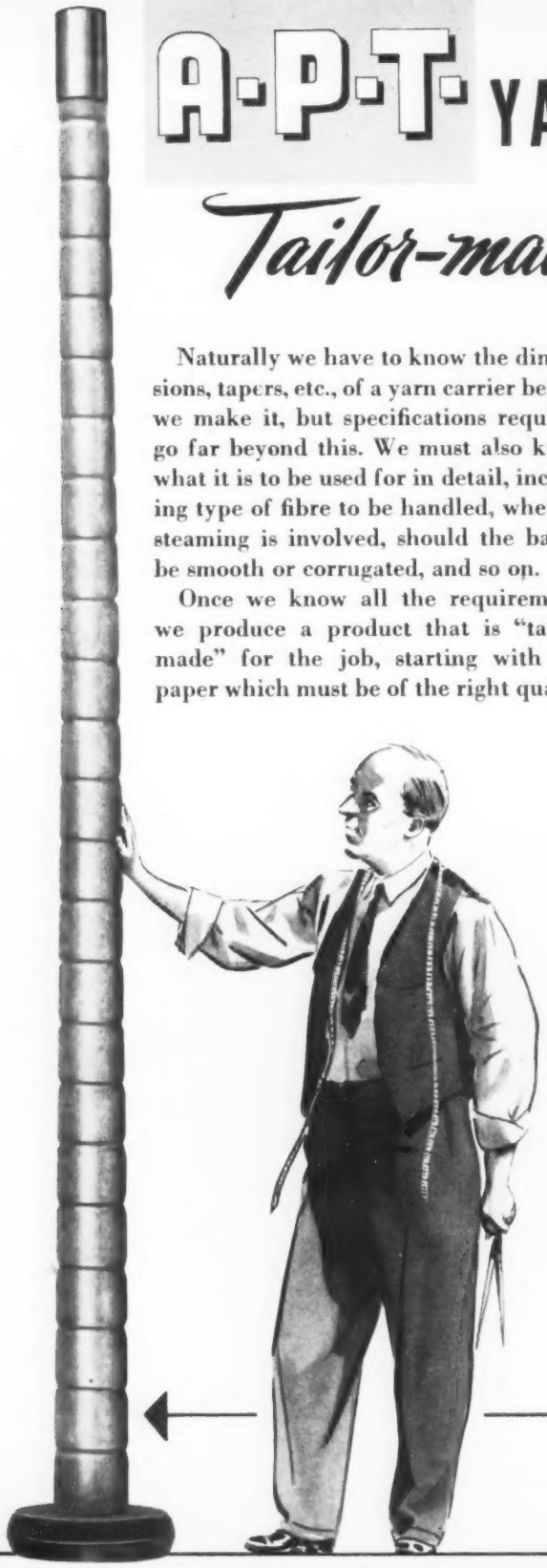
Tailor-made for the Job

Naturally we have to know the dimensions, tapers, etc., of a yarn carrier before we make it, but specifications required go far beyond this. We must also know what it is to be used for in detail, including type of fibre to be handled, whether steaming is involved, should the barrel be smooth or corrugated, and so on.

Once we know all the requirements we produce a product that is "tailor-made" for the job, starting with the paper which must be of the right quality and ending with the proper degree of moisture resistance and hardness of the barrel.

A. P. T. Yarn Carriers are in no sense stock items. They are engineered from the ground up for your particular needs. That's why you'll find them where quality yarns are spun or quality fabrics are woven.

Try them for spinning, twisting or weaving in your mill. They are used for all types of fibres.



A FEW A. P. T. FEATURES

A. P. T. Yarn Carriers are made of laminated paper impregnated for water repellency and hardened by baking. They are highly resistant to distortion, chipping and splitting, will not splinter and are free from static. Deep, well rounded corrugations permit free but controlled delivery.

A. P. T. CARRIER FOR GIANT PACKAGE WOOL MULE SPINNING

AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

SALES OFFICES IN NEW YORK AND CHICAGO

"Greatest advancement in lift truck equipment since pneumatic tires"

HYSTER Load-Grab

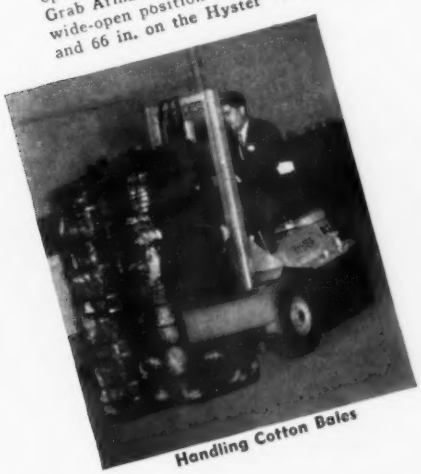
for use with HYSTER "20" and HYSTER "40" LIFT TRUCKS

"LOW-PRICED • SIMPLE • EFFECTIVE • FAST"

Handles Bales, Boxes, Bundles, Bags, Barrels, Oil Drums... *without pallets*

WIDE-OPEN POSITION

By the simple manipulation of a lever, the operator can expand and contract the Load-Grab Arms from the closed 17 in. position to the wide-open position of 62 in. on the Hyster "20" and 66 in. on the Hyster "40".



Handling Cotton Bales

what it is...what it does... Hyster Load-Grab is a simple, sturdy, hydraulically operated clamp device, with several different types and options of load arms. Load-Grab picks up any kind of a load as easily as you pick up a handful of cards.

how it does it... Hyster Load-Grab *side squeezes* with just enough pressure to lift and transport loads without the use of pallets . . . **Regular Load-Grab Arms, Rubber Faced Arms, Spike Faced Arms, Drum Handling Arms and Pallet Load Arms can be interchanged or installed in a few minutes.**

CONTACT YOUR HYSTER DISTRIBUTOR OR WRITE FOR LITERATURE

HYSTER COMPANY

THREE FACTORIES

2922 N. E. CLACKAMAS ST. . . PORTLAND 8, OREGON
1822 NORTH ADAMS STREET. . PEORIA 1, ILLINOIS
1022 MEYERS STREET. . . . . DANVILLE, ILLINOIS

"BOUND TO GET THERE"

Boxed, Bundled or Baled!

...WITH Acme Steelstrap

Doc Steelstrap

No matter how your textile product goes, it will move more secure against everyday shipping hazards when banded with Acme Steelstrap.

You save, too, on warehousing space, shipping weight, dunnage, freight claims . . . and profits rise proportionately.

So, whether your textile shipments are single units, carloads of freight, or ships' cargoes . . . use Acme Steelstrap for boxing, bundling, or baling. It means the most efficient shipping pack.

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11

Acme Steelstrap

ACME STEEL CO.
CHICAGO

Smoother OPERATION!

BALL BEARING OFF-END STAND . . .

Here's the companion piece to Southern States' Ball Bearing Comb Box . . . the Ball Bearing Off-End Stand! This new Stand is designed to provide smoother and completely leak-free operation of your Comb Stocks. It is available for all current makes of cotton cards.

A completely sealed bearing unit, this new stand—when used in combination with the Southern States Ball Bearing Comb Box—eliminates the possiblity of oil damage at the front of the card. While adjustments can be made at the Comb Box, the new Ball Bearing Stand will correct **minor** misalignment of the Comb Stock.

Southern States makes available to you **now** either separate unit or combination replacements of your old, worn-out comb boxes, comb stocks, and off-end stands. Purchase them individually or take advantage of complete replacement by ordering the three units at one time. Specify make of cotton card when ordering.

NEW-VERSATILE!

Replace old sleeve-type bearings with the new Southern States Ball Bearing Off-End Stand. Adaptable to **any current make of cotton card,** this efficient unit is completely **sealed,** requiring a minimum of attention. Simply and quickly installed, it is available for either right—or left—hand mounting and can be reversed **right in your cardroom!** You can insure more accurate comb setting—retain this accuracy for the life of the bearing.

We invite your inquiry on any one or all of these items . . .

Southern States Ball Bearing Off-End Stand, Comb Box or Comb Stock.

Southern States Equipment Corp.

HOME OFFICE AND FACTORY — HAMPTON, GEORGIA

HENDERSON FOUNDRY & MACHINE COMPANY DIVISION

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

FOR YOUR INFORMATION

NOW... BETTER MERLON FINISHES REACH WIDER RANGE OF FABRICS

Better finishes . . . for a greater variety of fabrics . . . are indicated by new laboratory developments with the Merlons, Monsanto's series of thermoplastic resin dispersions. Finishes both soft and durable, and of high quality and economy, can be achieved with the Merlons without curing or after treatment. State your problem in the handy coupon and you will get full information in addition to more news about these major applications:

COTTON SHEETS: Monsanto's Merlon is already doing an outstanding job for cotton sheets . . . the softer, finer finishes appeal to department store buyers. The better "hand" remains on the merchandise after washing.

COTTON DENIMS: Abrasion resistance . . . an outstanding property of Merlon formulations . . . gives added toughness, longer life, better general wearability to fabrics ranging from heavy-duty cotton denims to light sheetings. Increases in abrasion-resistance of from 100 to 300% have been noted.

RUG BACKING: Merlon resin has an adhesive effect in locking pile yarns to the base fabric . . . besides adding strength and body to the fabric. The resins promise to produce outstanding results in rugs, pile fabrics and similar weaves.

AND OTHERS: These applications are only a small sampling of all the products which can get better, more durable finishes with Monsanto's Merlons. Whether or not your fabric is named above, you might well find that the Merlons will do a better, more economical finishing job for your fabric.

Technical bulletins on the Merlons are available. And so are trained Monsanto technical personnel who will help you adapt Merlon to your specific needs. The handy coupon checked at H1 will bring you complete information.

AUTOMOBILE UPHOLSTERY: Here again, long-term durability and wear . . . given by increased abrasion resistance and fabric strength . . . make the Merlons outstanding. In fabrics like automobile upholstery . . . subject to more than ordinary wear and tear . . . Merlon holds fibers intact within the body of the fabric.

FINE WOOLEN FABRICS: In many of the fine grades of woolen fabrics, the Merlon resins reduce pilling. That's why Merlon formulations are suggested for suitings . . . and for similar consumer merchandise using high grade wool.

COTTON: Easy to apply . . . it's necessary only to pad and dry fabrics with the diluted Merlon. No lengthy finishing operations are involved. Faster production with Merlon spells greater over-all economy . . . pound for pound of finish.

WHAT THE MERLONS ARE: Monsanto has three series of Merlon thermoplastic resins: One series, Merlon KR, is a group of polyvinyl acetate dispersions in water; Merlon BR and BRS are polyvinyl butyral resins and Merlon S and SP are polystyrene dispersions. By combining these Merlons in varying formulations and concentrations, they can be adapted to practically all types of textile finishing.

STED gives uniform scouring results

Consistently good, uniform, predictable and controlled scouring results . . . despite varying degrees of water hardness . . . are assured with Sted, Monsanto's powerful, yet gentle all-purpose textile detergent. A given amount of Sted does a uniformly outstanding job in all textile cleaning operations.

Sted removes soil and holds it in suspension off the fabric . . . so that it is rinsed without redeposition. It is used for:

WOOL: Raw Wool Scouring.
Scouring tops.
Scouring before dyeing.
Skein Scouring.

RAYON: Removes graphite grease and sizing, and is used as an afterwash in rayon finishing.

COTTON: Kier boiling, continuous bleaching and soaping off prints.

Economical Sted is now succeeding in the toughest textile job. Your inquiries are invited through H2 on the coupon.

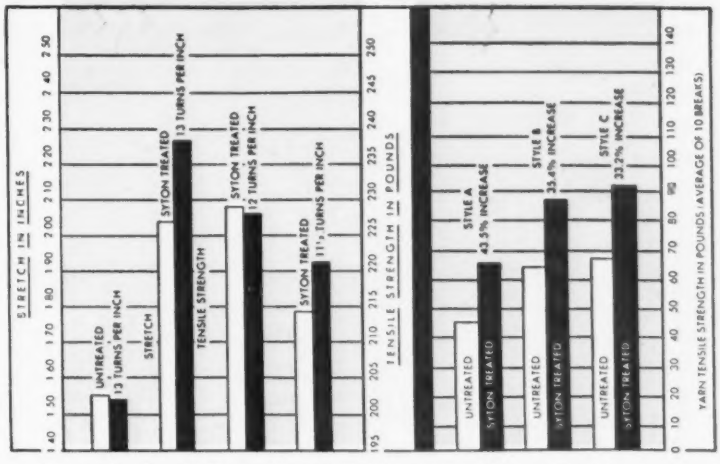
RESLOOM treated wool shirts are marketed by McGregor

Wool shirts . . . treated with Monsanto's Resloom Formula W for Washability . . . are being delivered to leading department stores by McGregor Sportswear. One shirt is a William Tell wool blend flannel Resloom-treated for washability and for soft "Thistle-down" hand. A second shirt . . . a Royal Wonderwool pure wool flannel . . . is certified launderable by the American Institute of Laundering.

To find out how you can get Resloom's proved results in your woolens, check H3 on the coupon.

Resloom, Merlon, Syton: Reg. U. S. Pat. Off.

New trials prove SYTON aids woolen and worsted spinning



The application of silica sols to textile fibers as an aid to spinning is covered by U. S. Patent 2,443,512 issued to Monsanto Chemical Company.

Now . . . many actual mill runs prove that Monsanto's Syton . . . on both woolens and worsted systems . . . increases yarn tensile strength from ten up to 30%. Applied at the picker for woolens and at the gill box for worsteds, usually in a spray or dip, this submicroscopic silica controls fiber lubricity . . . strengthens the yarn . . . and produces reports like these:

"A 20% to 30% increase in tensile strength with Syton."

"A 10% decrease in twist enabled us to maintain the same yarn strength with an 8% production increase."

". . . Syton gives good results in decreased fly and decreased ends down."

These comments illustrate major operating advantages mills get from increased yarn strength with Syton:

- **INCREASED PRODUCTION:** Since yarn strength is increased, the amount of twist necessary can be reduced and production speeded.
- **LOFTIER YARNS:** Less twist means loftier yarns . . . with tensile strength equal to or greater than that of untreated yarns of higher twist.
- **FEWER ENDS DOWN:** Reductions in ends down vary from 25% to 50% depending on the grade of wool.
- **IMPROVED SPINNING EFFICIENCY:** Produces more uniform yarn, with less beard and thin spots, reduced fly waste and better drafting.
- **FINER YARNS POSSIBLE:** Syton-treated yarns can be spun closer to the limit spin.

These successful mill runs are all the more reason why you should get in touch with Monsanto now . . . and find out how Syton will help you in your mill. You can get full information . . . and technical cooperation . . . by checking H4 on the coupon.

MONSANTO
CHEMICALS ... PLASTICS

MONSANTO CHEMICAL COMPANY, TEXTILE CHEMICALS DEPARTMENT
Desk TWT-8, 140 Federal Street, Boston 10, Mass.

I am stating my problem in an attached letter so you can inform me specifically on ☐ *H1,* ☐ *H2,* ☐ *H3,* ☐ *H4.*

I wish general information on ☐ *Merlon,* ☐ *Syton,* ☐ *Sted,* ☐ *Resloom.*

Name _____ Title _____

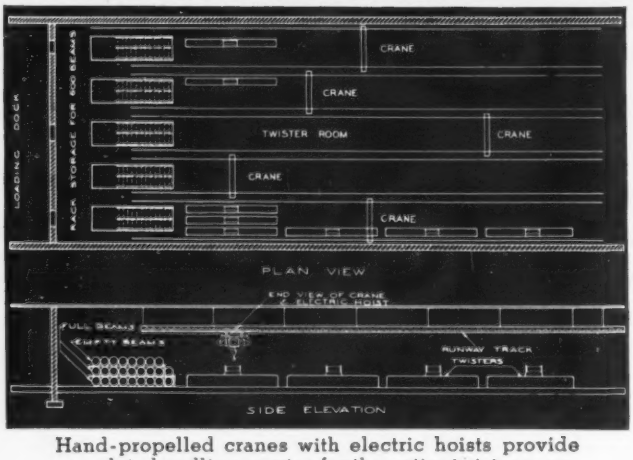
Firm _____

Address _____

City _____ State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

BEAM HANDLING AT EXCELSIOR MILLS CLEMSON, S. C.



Hand-propelled cranes with electric hoists provide complete handling service for the entire twister room.

In the ultra-modern twister room of the Excelsior Mills, Clemson, S. C. a Cleveland Tramrail system handles rayon beams from storage to twisting machines. Empty beams are returned on the same equipment.

It is a simple easy task for one man with the Tramrail equipment to convey a beam and set it in position on a twisting machine. Where required two or more beams can be mounted on a twister frame with equal ease. Tramrail equipment eliminates the need of floor trucks entirely and thereby removes a chief source of floor damage.

GET THIS BOOK!

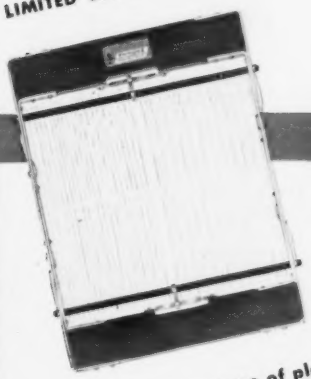
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8465 EAST 287th ST. WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

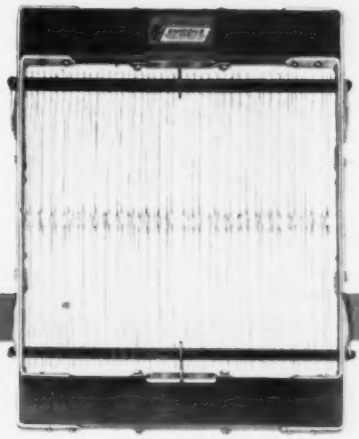
"HERE ARE 3 TYPES OF EMMONS HEDDLE FRAMES!"

EMMONS SINGLE BAR LIMITED SLIDE FRAME



For almost any type of plain or Dobby goods weaving.

EMMONS DOUBLE BAR LIMITED SLIDE FRAME



Extremely suitable for weaves where a double bar harness is required such as Light Duck, Narrow Sheeting, etc.

EMMONS #E-11 CONTINUOUS SLIDE HOOK FRAME*

Particularly adaptable to the weaving of rayon and fine worsteds.

"NATIONALLY I'M AT YOUR SERVICE IN"—

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ATLANTA	ARTHUR HARRIS P. O. Box 1982 'Phone—Main 2643
DALLAS	R. D. HUGHES SALES CO. 1812 Main Street 'Phone — C-6283; C-6284
NEW YORK	W. S. TAYLOR 52 Vanderbilt Avenue 'Phone — Lexington 2-6060
CHICAGO	ALBERT R BREEN 80 E. Jackson Boulevard Phone — Harrison 7140

*Patent Applied For

"I'M ON ALL THESE EMMONS PRODUCTS!"

STEEL HEDDLES
(Nickel, cadmium, stainless)

HEDDLE FRAMES

REEDS
(Pitchband & All-Metal; Also Available in Stainless Steel)

SELVAGE HARNESS

SLASHER AND STRIKING COMBS

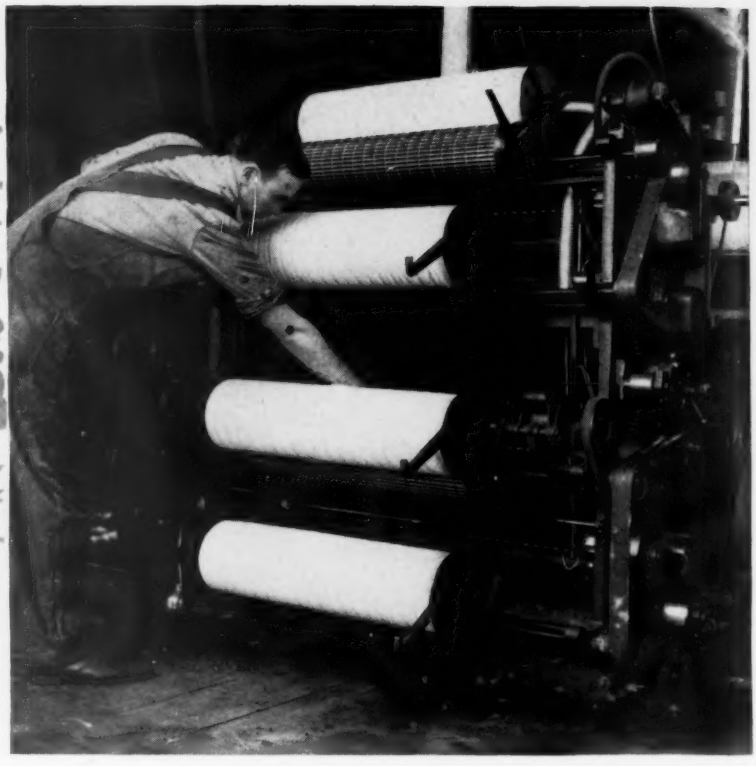
EMMONS LOOM STRAPPING
(Manufactured by B. F. Goodrich Co.)

RUN-RITE PLASTIC SHEAVES AND TAPE TENSION IDLERS
(Manufactured by National Plastics, Inc.)

McLANATHAN LEATHER PRODUCTS
Condenser Tapes • Wondertan Stripper Belts • Aprons

EMMONS WEAVE ROOM EQUIPMENT

HOW TO GET "Top" PERFORMANCE FROM YOUR WOOL CARDS



On the athletic field or in the mill, the difference between mediocre and top performance in human beings is a matter of leadership.

Good leadership (proper attention) can also bring out hidden reserves in your wool cards. This was demonstrated during the war, when, having exhausted all other means of increasing production, many woolen mills asked us to inspect their cards.

By using a more suitable card clothing, changing settings and other seemingly minor adjustments, we were able, in some cases, to increase production as much as 30% and also to greatly improve quality.

At best, card inspection can receive only your *divided* attention, for you have many other things to think of. Card inspection is one of our specialties and receives *undivided* attention by our trained experts. They make written recommendations and *you* make the decisions.

An Ashworth card inspection will cost you nothing and may save you thousands of dollars. Write us at Fall River for details.

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AMERICAN CARD CLOTHING CO. (Woolen Div.)
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Greenville†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

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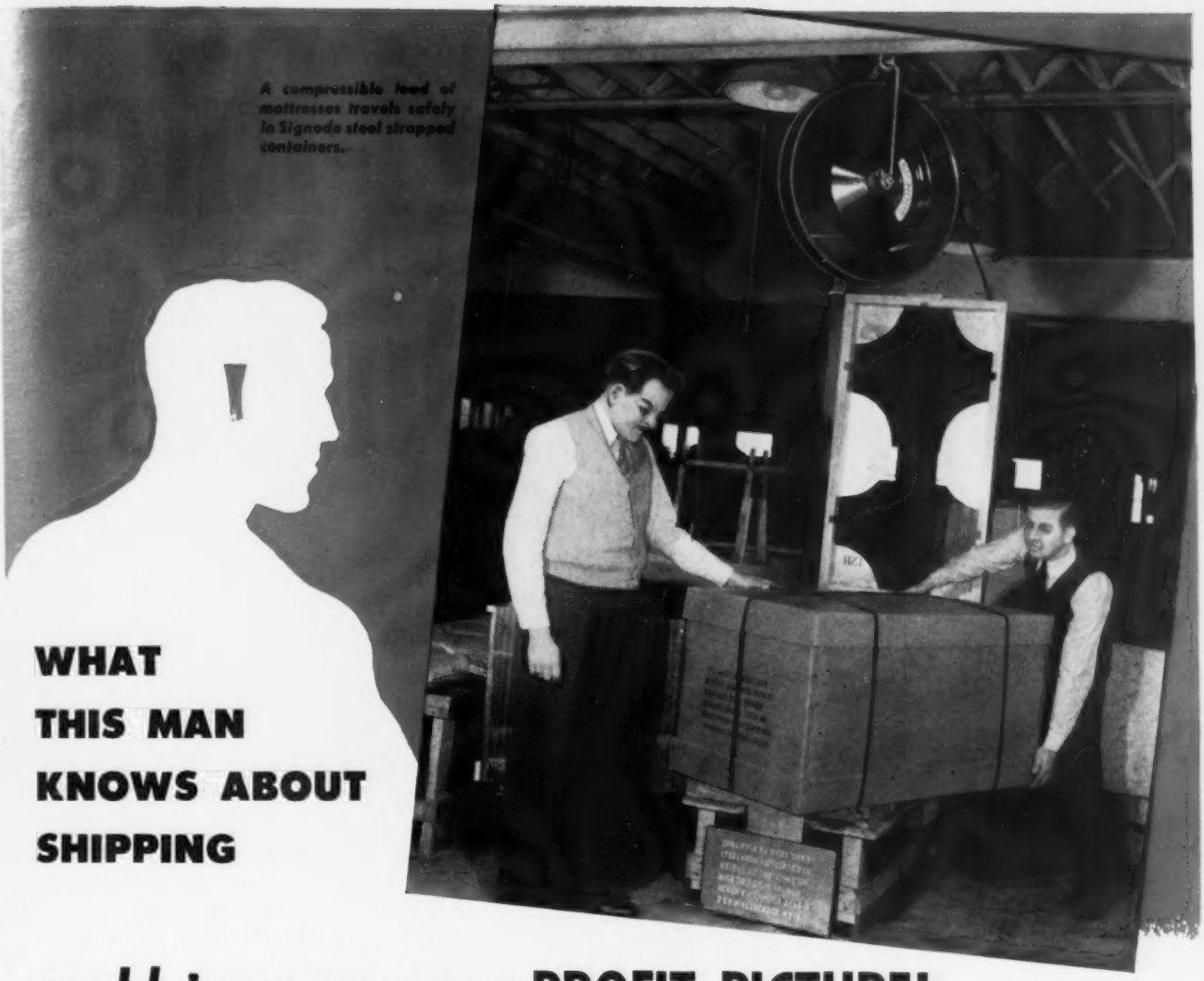
Card Clothing For Cotton, Wool, Worsted, Silk, Rayon And Asbestos Cards And For All Types Of Napping Machinery · Brusher Clothing And Card Clothing For Special Purposes · Lickerin Wire And Garnet Wire · Sole Distributors For Platt's Metallic Wire Lickerins And Top Flats Reclothed

Ashworth PIONEERS IN CARD CLOTHING

4 FACTORIES · · · 6 REPAIR SHOPS · · · 7 DISTRIBUTING POINTS



WHAT THIS MAN KNOWS ABOUT SHIPPING

could improve your PROFIT PICTURE!

Back of many an improved packaging and shipping method in the textile field is a Signode packaging and shipping engineer.

This man's job is to help shippers reduce damage claims, save time, money and materials—through the application of Signode's *System of Planned Protection.*

In addition, a complete postwar, newly designed line of Signode tools—from high-speed, semi-automatic equipment to high tension stretchers and super-easy operating sealers—offers you a completely new kind of performance.

No matter what you ship: baby mattresses, wool combing, silk hosiery or yard goods; no matter how you ship: in bales, cartons or wooden boxes . . . the chances are better than even that a Signode representative can show you how to do it better, faster, cheaper.

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Signode special lithographed seals are available in color with your name or trade-mark . . . provide excellent advertising as well as pilferage-proof protection.

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Texrope Vari-Pitch Give More Output

Quick Change in Speed Reduces Downtime, Increases Productive Time

TEXROPE VARI-PITCH DRIVE provides quick changes in machine speed without changing sheaves. With Motion Control *Vari-Pitch* sheaves, infinite variations in speed within a wide range are available instantly, *without stopping the machine.* With Stationary Control *Vari-Pitch* sheaves, the change requires only 5 to 8 minutes. Machine downtime and unproductive labor time are greatly reduced. You can make speed adjustments easily and quickly, squeezing the last possible per cent of efficiency from your machines.

EXACT SPEED CONTROL, WIDE ADJUSTMENT

Vari-Pitch sheaves provide for infinite speed variations within their range. Machines can be operated at precisely the required or rated speed for maximum efficiency. Installing a single *Texrope Vari-Pitch* sheave will provide speed variations up to 25 per cent, using standard V-belts. Wide range *Vari-Pitch* sheaves and Q or R belts provide variations up to 100 per cent. *Texrope* enclosed *Vari-Pitch* speed changers allow speed changes up to 375 per cent.

ALLIS-CHALMERS OFFERS COMPLETE SERVICE

Full range of *Texrope Super-7* V-belts — standard, *Vari-Pitch* and easy-mounting *Magic Grip* sheaves— improved *Quick Clean,* loom and standard squirrel cage motors, efficient dry-type distribution transformers — motor control. Buy all of this equipment from one dependable source — backed by undivided responsibility for correctly engineered application and performance. Conveniently located Allis-Chalmers District Offices and Authorized Dealers offer you prompt, efficient attention. Call the one nearest you or write ALLIS-CHALMERS, MILWAUKEE 1, WIS.

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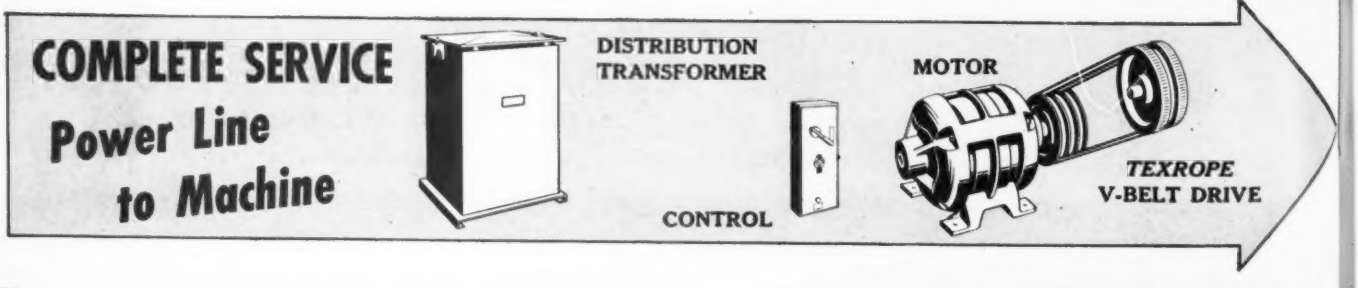
Texrope, Vari-Pitch, Magic Grip, Super-7 and Quick Clean are Allis-Chalmers Trademarks.



Drives

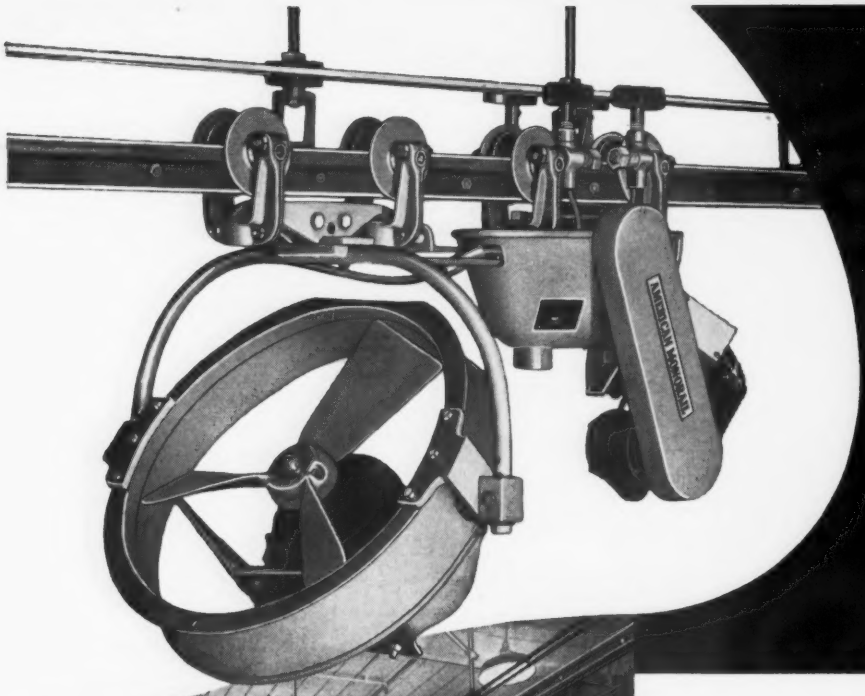
TYPICAL A-C TEXTILE DRIVES

Wide Range *Vari-Pitch* sheaves with Stationary Control are used on these spinning frames in a North Carolina textile plant. In addition to the *Vari-Pitch* Drives, this installation includes new type 10 HP *Quick Clean* Motors, *Texrope* V-belts and motor control. Be sure you get the advantages of coordinated equipment, engineered installation, undivided responsibility. Standardize on Allis-Chalmers for *everything* between power line and machine.

ALLIS-CHALMERS A-C MILWAUKEE

ALLIS-CHALMERS

Originators of the Multiple V-belt Drive for the Textile Industry



Keep Ceilings Clean with AUTOMATIC CEILING CLEANERS

No Labor Cost
No Production Loss
No Ladder Accidents
No Fire Hazard

At a recent meeting of textile executives, twenty-four mills reported most common practice of blowing down ceilings once every twenty-four hours with frames running, or once a week when idle. This means lost production when the machines are shut down under the cleaners or extra time for cleaning labor.

ONE MILL REPORTED EXCELLENT RESULTS WITH AUTOMATIC CLEANERS!

Our engineers can show you how a simple high-velocity traveling fan unit can eliminate your ceiling cleaning problem entirely. Systems have been operating well over a year without blow down.

Write for copy of Bulletin CB-3 describing all the latest developments in Automatic Cleaners for Textile Mills.

THE AMERICAN MONORAIL COMPANY

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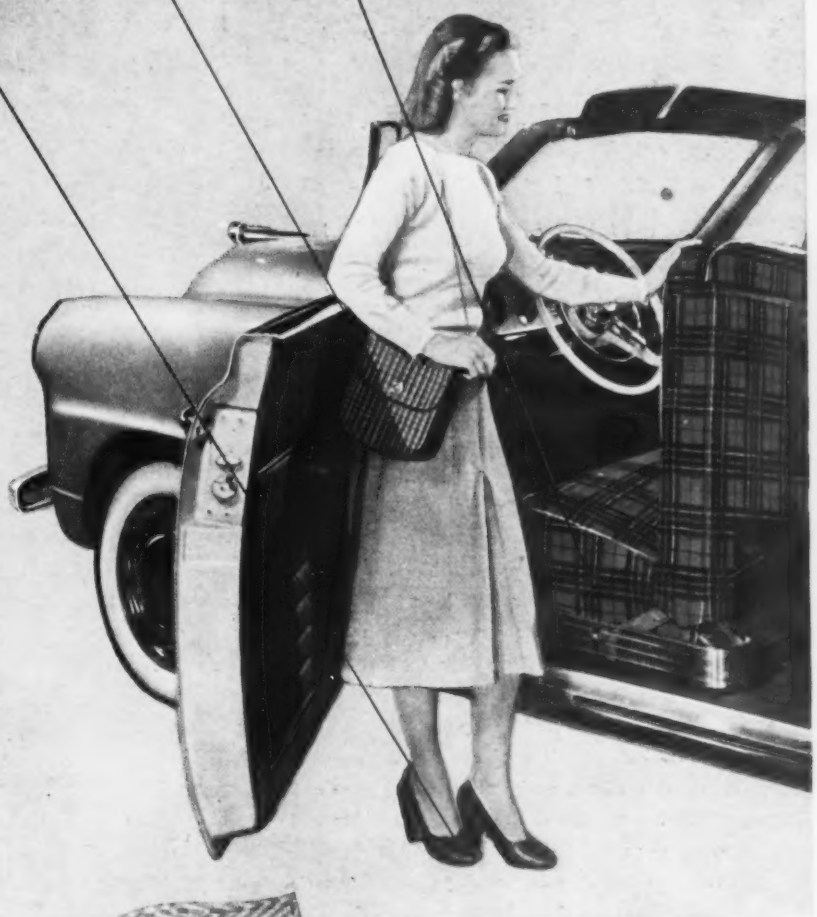
SARAN

SARAN BY NATIONAL



Made For Wear . . . Styled For Sales. Wherever fabric beauty must be practical, *saran* is the answer. Here, in the newest seat covers, are color and beauty that will withstand rain, sun and rugged usage. Saran won't snag, sag or scuff and this amazing fabric permits the easy removal of surface dirt and dust. That's why saran is the first choice in seat covers for motorists everywhere. ⊹ Think of the markets saran can open for you! Its long-lived beauty makes it a favorite for fine furniture . . . and its great wearability is a natural in seatings for restaurants, theaters and waiting rooms. Put this career fabric to work for you in these profitable markets. Join the swing to saran . . . build your opportunity on this modern textile material by writing National for further information.

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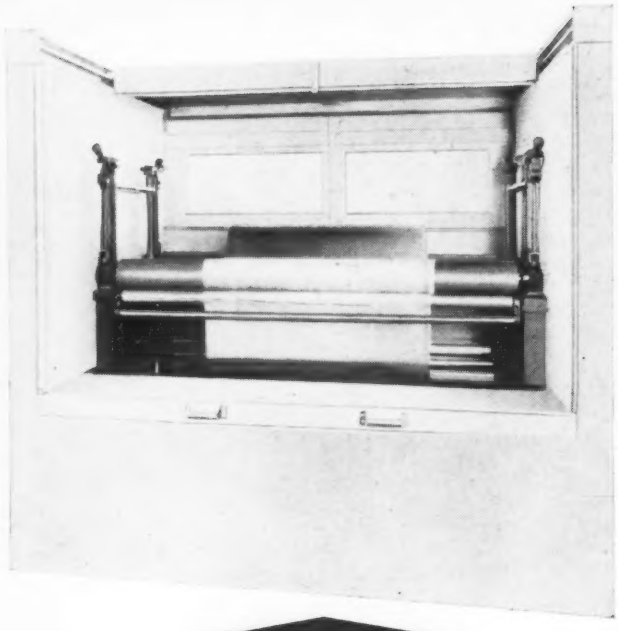
SARAN

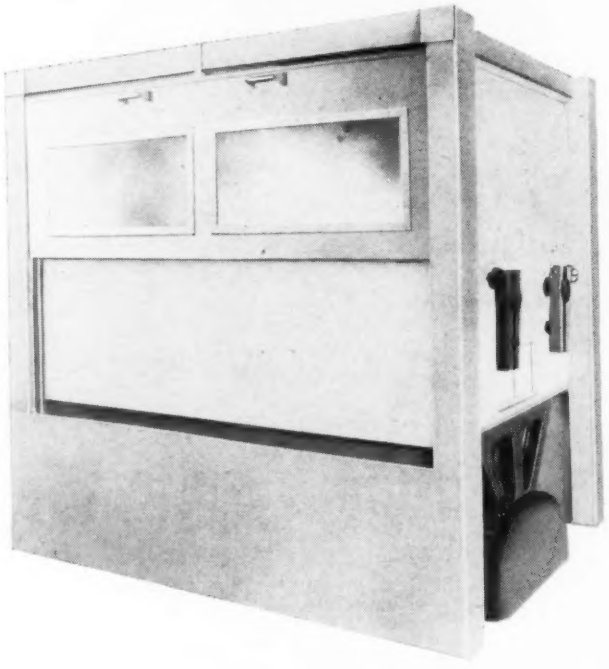
SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.*



OPEN

THE EASY WAY TO LOAD and UNLOAD

CLOSED



with

werner's jig enclosure!

Werner's Jig Enclosure is stainless steel with high temperature, shatterproof glass windows—permitting loading and unloading of the Jig without interference to chain hoists or tackle by overhead structural parts.

The Enclosure is indispensable for dyeing qualities requiring *continuous high temperature processing of fabrics.* It contains fully enclosed counter weights and finger tip control of the sliding panels to provide easy use of the Jig, with a good, tight fit of all parts. Maintenance is economical, and life of the Jig enclosure is extended by the smooth, clean cut surfaces and protective inclosure of the counter weights and moving parts.

You will realize many savings with Werner's Jig Enclosure. For full details write today.

WERNER MACHINE CO., INC.

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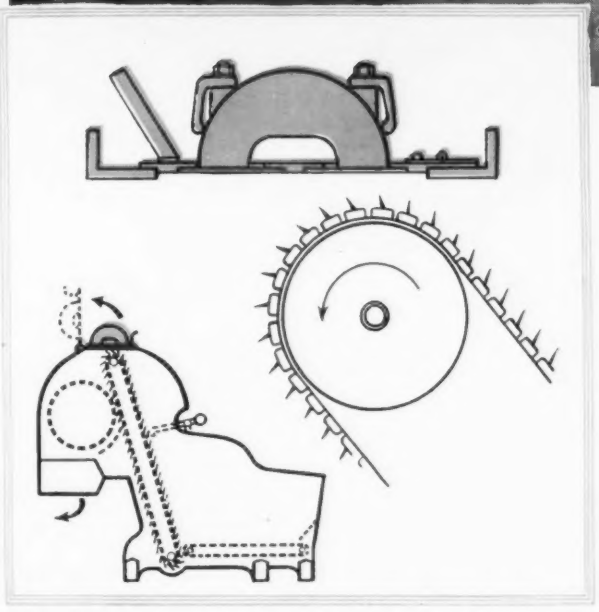
PASSAIC, NEW JERSEY

WERNER EQUIPMENT

Beamer • Decater • Dry Cans • Embossing Machine • Examining Machine • Flock-Printing-Range • Jig • Open Width Boil-Off • Padder (2 and 3 roll) • Palmer Tenter Quetch Range • Pile Fabric Finishing Range • Quetch • Rubbing Machine • Rope Washers • Stainless Steel Dye Kettle • Single-Color-Roller Print Machine • Tuber • Tenter Frame • Vacuum Extractor

Eriez Magnets give more efficient and simplified MAGNETIC PROTECTION



1. Supporting angle iron.
2. Magnetic Separator in working position.
3. Magnetic Separator swung up for cleaning.
4. Handle for swinging back hinged Magnetic Separator.

POSITIVE protection from fires and machinery damage caused by tramp iron is provided when Eriez non-electric permanent magnetic separators are installed in textile processing lines. The Eriez magnet is simple, requires no maintenance other than cleaning of collected trash. It is easily understood, maintained and installed by ordinary labor. There is no operating cost . . . The Eriez is light in weight, extremely flexible in design and economical in cost. It presents no additional fire hazard of its own to the process protected. The magnetic strength of Eriez Magnets does not diminish. It is permanent—the power is always there. No chance of electrical failure or human forgetfulness. Eriez Non-Electric Permanent Magnets are effective in removing Tramp Iron from all types of fibers. Submit your tramp iron removal problems to us, we will be glad to help in their solution.

The Eriez Magnetic Separator, shown above, is built for suspension over spiked apron feeders. This application assures superior cleaning results because the magnet is operating at a point where materials are opened and traveling at low speeds. Eriez Magnetic separation is simple. As material is conveyed to the top of the apron, it passes into the magnetic field where tramp iron is removed. Eriez magnets can be built any size required in order to fit existing or new machinery.

See our exhibit, Southern Textile Exposition, Greenville, South Carolina, October 4-9, 1948, Booth No. 487.

Please send bulletin No. 104A and the following: TW-8

Data on Eriez Magnets for:

☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor

☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

Name.....

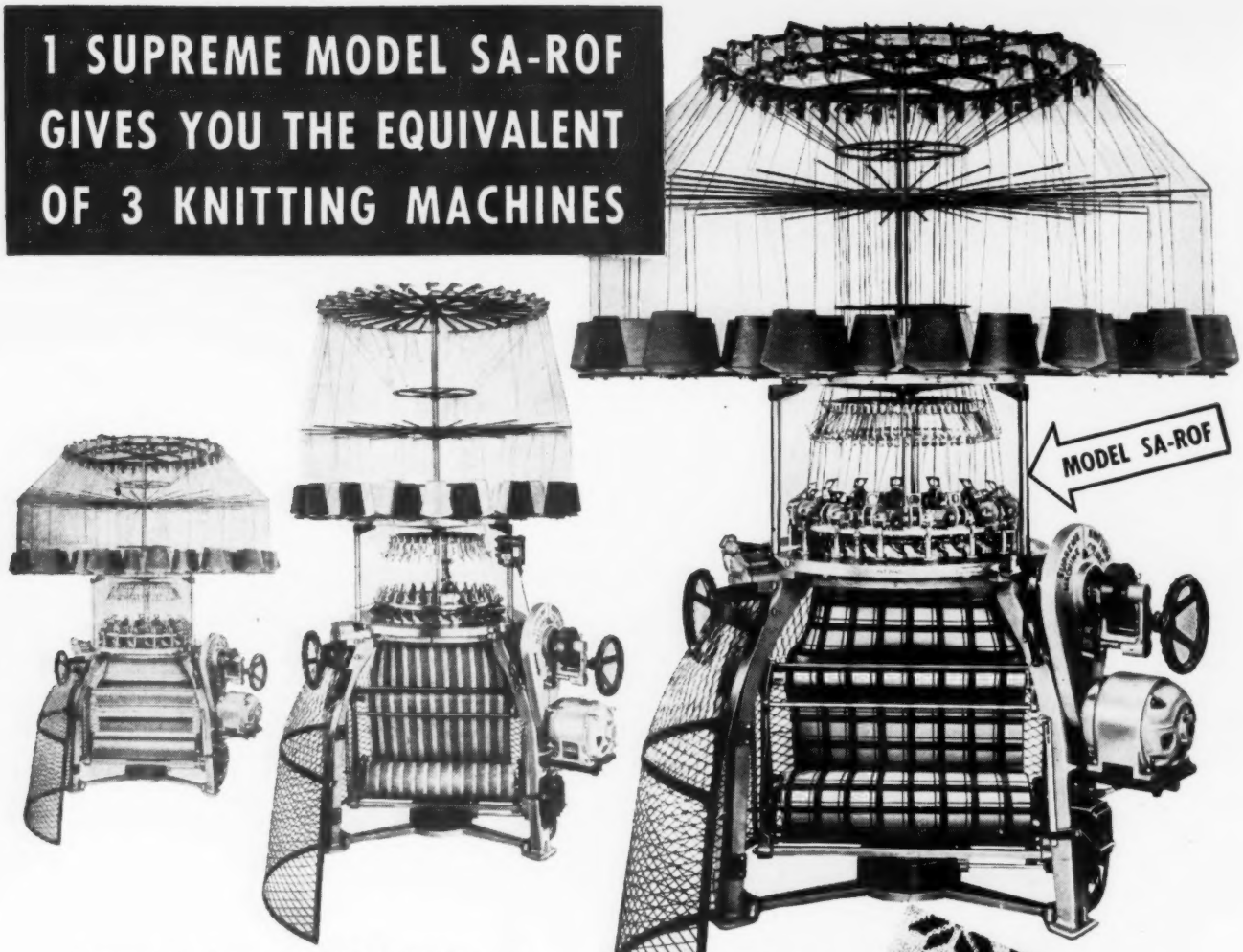
Address.....City.....State.....

● *When It's Magnetic Protection . . . See Eriez First*

ERIEZ MANUFACTURING COMPANY

501 East 12th St., Erie, Pa.

1 SUPREME MODEL SA-ROF GIVES YOU THE EQUIVALENT OF 3 KNITTING MACHINES



Supreme's New Model SA-ROF gives you the combined advantages and the varied knitting ability of three knitting machines:

1. **A variable jersey striper**
2. **A "floatless" pattern wheel machine**
3. **A plaid and check knitter**

Depending upon your production plan or market demand, with the Model SA-ROF you can knit variable striped jersey with the stripes as deep as you want varied the way you want or – widely spaced patterns and designs with the floats neatly tied to the back of the cloth or–colorful plaids and checks.

The Model SA-ROF has these exclusive design features:

- Unique, stationary drum striping feeds and stationary yarn stand.
- Revolving cylinder and take-up.
- 24" diameter, 32 feeds. A minimum of 16 feeds knitting four colors.
- Choice of stripes, patterns or plaids.
- Quiet, concealed camming.

If you want to know more about the unusual fabrics and wider production range possible with SA-ROF, write for your copy of our new booklet, "Variable Stripes and Plaids Pay."

Mills Throughout the World Knit With Supremes

SUPREME
KNITTING MACHINE CO., INC.
105 JOHNSON AVE., BROOKLYN 6, NEW YORK, N. Y.

SK-113

NO WONDER

Textile Mills are Enthusiastic *about* NEW BULL DOG V-Belts

Fractional Horsepower (FHP) V-Belts are available in three standard sections, full range of lengths.

Bull Dog Industrial V-Belts are available in A, B, C, D and E sections, full range of lengths.

In these days of high operating costs, any product that boosts efficiency wins a warm welcome. So it's only natural that these rugged new Bull Dog V-Belts have won instant acceptance in an industry where steady, dependable, low-cost power is a basic need. In fact, leading industries everywhere have acclaimed Bull Dogs as the last word in V-Belt proficiency.

For more than 70 years, the name BWH has been known as a symbol of EXTRA service on mechanical rubber goods. And the new Bull Dog V-Belts proved in test after test that they assure exceptionally economical, trouble-free operation on all types of machinery.

Here's What Makes BWH Bull Dog V-Belts Outstanding:

1. ***Exclusive Bull Dog Cord Section with Higher Tensile Strength*** — able to carry the load and absorb shock.
2. ***Low Stretch*** — because Bull Dog Cords are processed in a new way. This means less slippage, fewer adjustments, longer belt life.
3. ***Cool Running*** — quality-controlled compounds developed in BWH laboratories don't crack or deteriorate under severe flexing.
4. ***Wear-Resistant Covers*** — made of bias-cut heavy fabric to protect the heart of the belt from dirt, grease, moisture.

SPECIFY BULL DOG V-BELTS FOR "MORE POWER TO YOU"

When you need V-Belts or other mechanical rubber goods, look to BWH for products of dependable ruggedness — BWH distributors for dependable service.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

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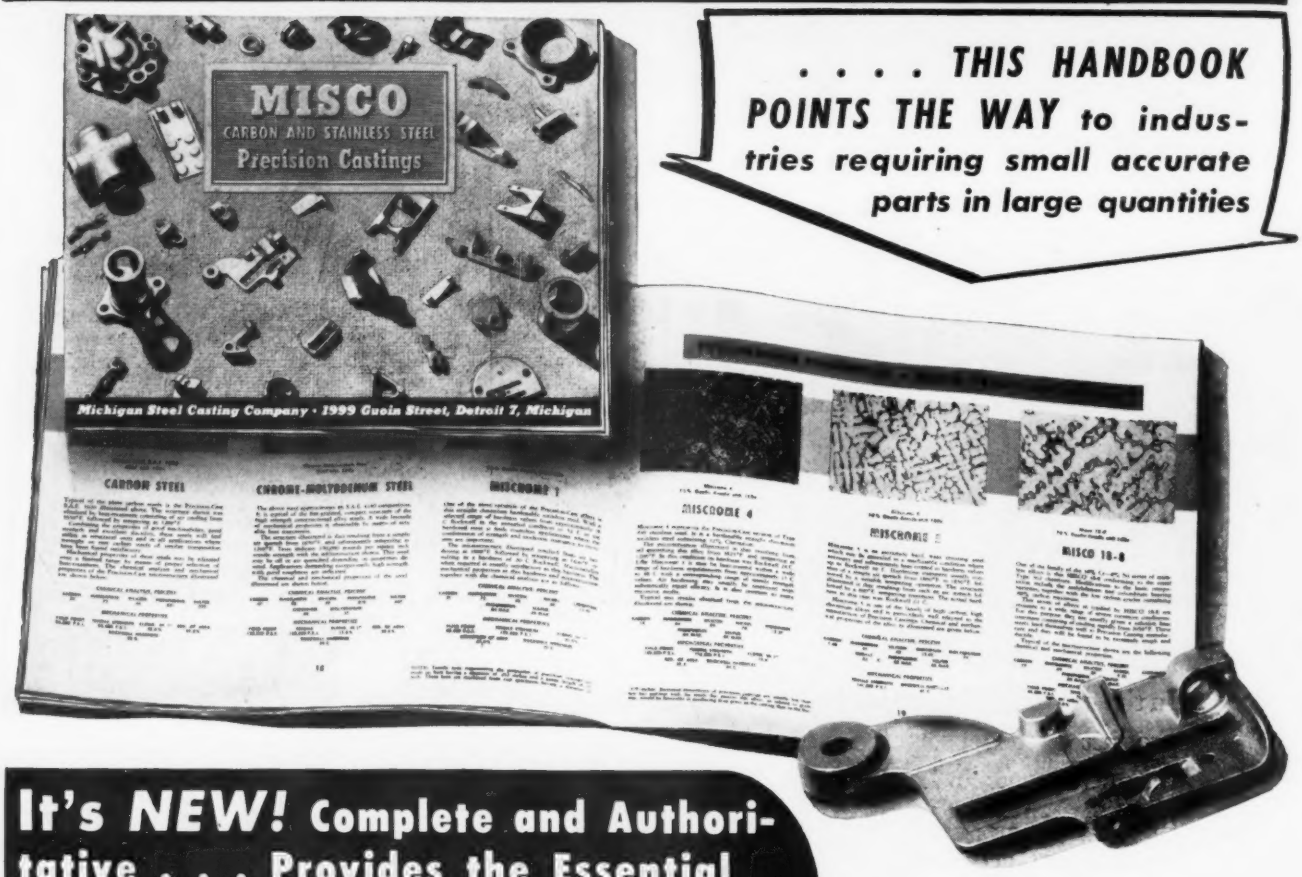
MISCO *Precision* CASTINGS

CARBON AND STAINLESS STEEL

CAST TO MICROMETER TOLERANCES



. . . . THIS HANDBOOK POINTS THE WAY to industries requiring small accurate parts in large quantities

It's *NEW!* Complete and Authoritative . . . Provides the Essential Precision Casting Data *YOU* Need!

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The striking qualities of the Misco Precision Casting Process described in our booklet are of particular interest to engineers, metallurgists, production and purchasing executives. Clear, concise, and up-to-date, this 20-page booklet, in full color, has been compiled to present you with the latest developments in precision castings which practically eliminate expensive machining operations. If your requirements call for quantity production of small intricate parts in high strength, wear resistant, and heat and corrosion resistant steel alloys you should have this booklet. We invite you to write for your copy.

Here is a Misco Precision-Cast stainless steel machine part weighing 2 ounces, cast to dimensional tolerances of ±.004" per linear inch. Fifty-six separate operations are saved as compared to the old method of machining a forging. Large scale production can be scheduled for quick delivery and tooling costs are low. Let us assist you with your design, production and material selection. Inquiries will receive prompt attention.

PRECISION CASTING DIVISION
Michigan Steel Casting Company

MISCO
Heat and Corrosion Resistant Alloys

One of the World's Pioneer Producers and Distributors of Heat and Corrosion Resisting Alloys

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These Latest Answers To Your Air Problems

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- heat transmission
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It's an enlarged, up-to-date 5th edition of the famous handbook edited first in 1914 by Dr. Willis H. Carrier, then Chief Engineer of Buffalo Forge Company. As previously, this 5th edition is edited by Richard D. Madison, who is widely and favorably known in the heating and ventilating field. It covers thoroughly and authoritatively major phases of fan design, air handling and air conditioning. Many topics such as air-flow, sound, dust collection, and material handling have been amplified so that this 5th edition pocket size ($4\frac{1}{2}$" x $6\frac{3}{4}$"), $6.00 per copy, is more than ever a necessity for the man concerned with the movement and distribution of air or gases.

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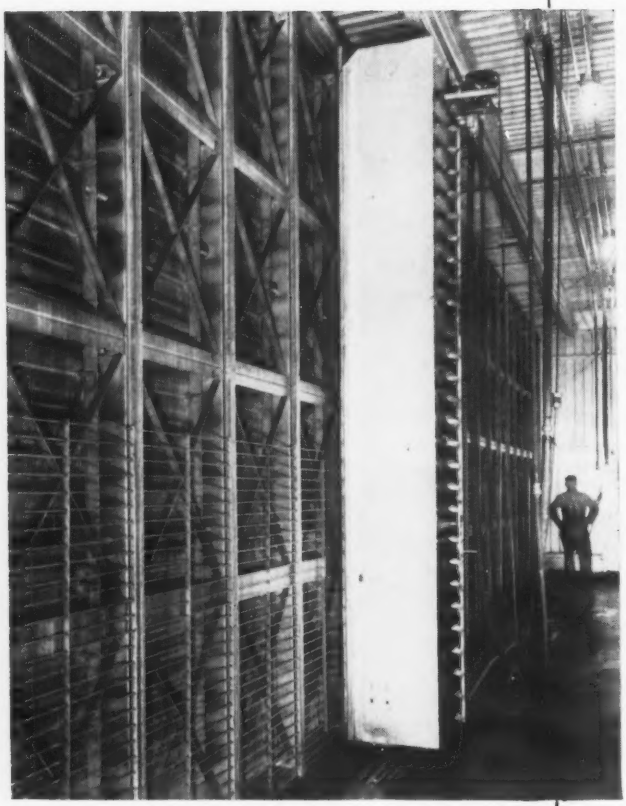
Branch Offices in all Principal Cities

CUTTING AIR COSTS IN EVERY BRANCH OF INDUSTRY

Where SUPER-CLEAN AIR is a "must"



An Electro-Cell Precipitator of 216,000 CFM capacity with AAF automatic washers now in its third year of service.

AAF Electro-Cell combines high cleaning efficiency with ease of maintenance

WHERE dirt-laden air is a threat to efficient production and quality output, AAF Electro-Cell is a "must". The reason is simple. There's more profitable production where there's super-clean air. The Electro-Cell with its electronic precipitator cleans even the dust and smoke with particles of fractional micron size.

Removable collector plate cells permit selection of maintenance method best suited to your operation. Cells may be manually washed and re-oiled in place; removed for easy cleaning in a special tank, or washed, dried and recoated automatically (as illustrated) with minimum interruption to operation.

Electro-Cell's sectional construction reduces weight of parts, eliminates multiplicity of electrical connections, protects wiring from dirt and water. And its full-height hinged or removable ionizers minimize electrical losses, reduce ozone and simplify replacement of ionizing wires.

If you want super-clean air plus proven savings in operation and maintenance, get complete Electro-Cell data now. Just contact your local AAF representative or write direct for Bulletin No. 252.

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304 Central Avenue, Louisville 8, Ky.
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AIR FILTERS
AND DUST CONTROL EQUIPMENT

with DAYCO

ROLL COVERINGS

In a test in which 1,134 spindles were observed and which covered 13,261 spindle hours in a large southern mill, *Dayco* Roll Coverings showed fewer lap ups on top and bottom rolls and 11.7% less unclassified ends down. Actually, there were more than three times as many lap ups on the bottom rolls where competitive roll coverings were used, although all the bottom steel rolls had just been reworked and were in top operating condition. Both the *Dayco* and competitive roll coverings had been in use from three to four months at the time the test was conducted.

Test after test, under actual operating conditions, proves that *Daycos* run with 10% to 50% fewer ends down than other makes of roll coverings. *Daycos* consistently outperform other roll coverings because they are built with exactly the right amount of cushion and the correct coefficient of friction. *Daycos* are not affected by temperature or humidity. They retain their superior physical properties throughout their long service life. In fact, the characteristics of *Dayco* Roll Coverings are such that *Dayco's* surface drafting properties improve with use.

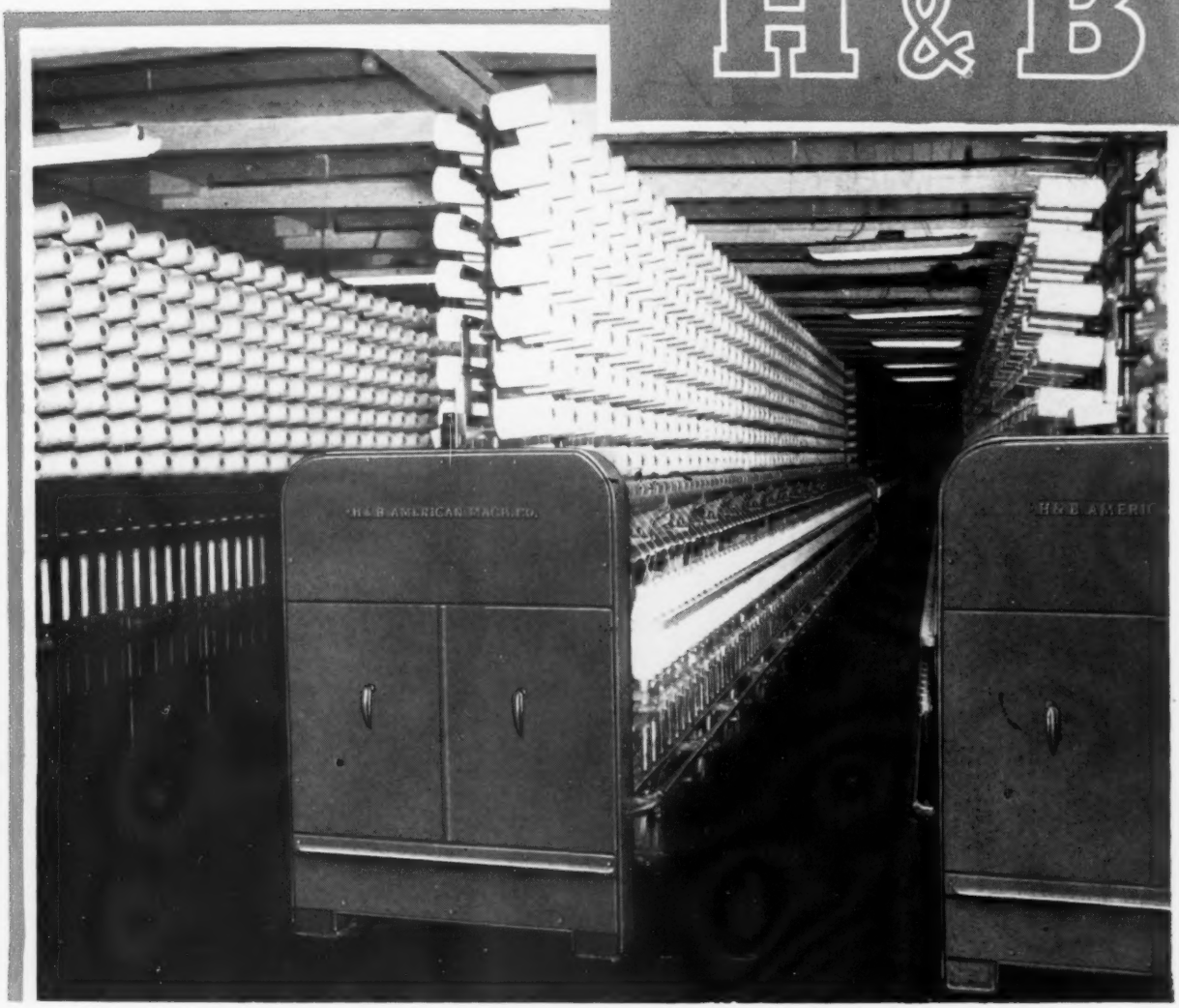
Put *Daycos* on some of your frames and test them yourself. Let them prove for themselves that they will give you better service and longer service at less cost. For complete information, write *Textile Products Division, The Dayton Rubber Company, Woodside Bldg., Greenville, S. C.*

Write today for your free copy of Dayco's new Cot Grinder bulletin, No. A-550.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

H & B



H & B Twisters, built exactly to exact specifications, assure high quality finished yarn with an even twist. They deliver a well shaped, firm bobbin carrying the maximum yardage permissible within the natural limits imposed by traverse and ring diameter. Whether this twisted yarn is used for duck, high quality broadcloths, gabardines, tire cord or sewing thread, you can depend on H & B. Our engineering provides the right builder motion for trouble-free run-off on any type high speed winder, or in any other subsequent operation.

Additional features of H & B Twisters contribute to the quality of the twisted yarn and to the safety, ease and economy of operation of the machine. These are "the little things that make a big difference".

H & B AMERICAN

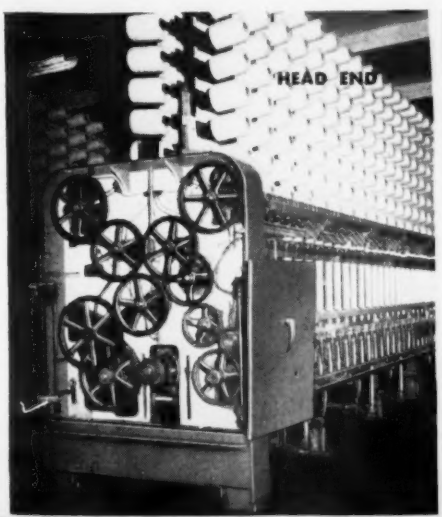
Builders of Modern

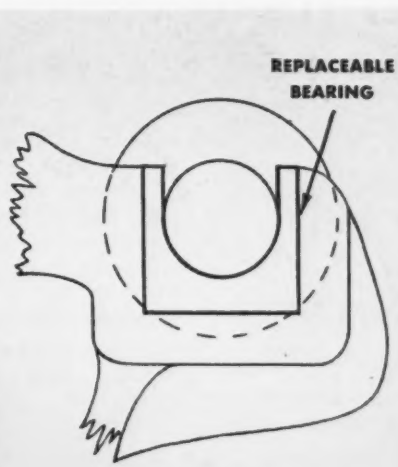
FACTORY, EXECUTIVE OFFICES AND EXPORT

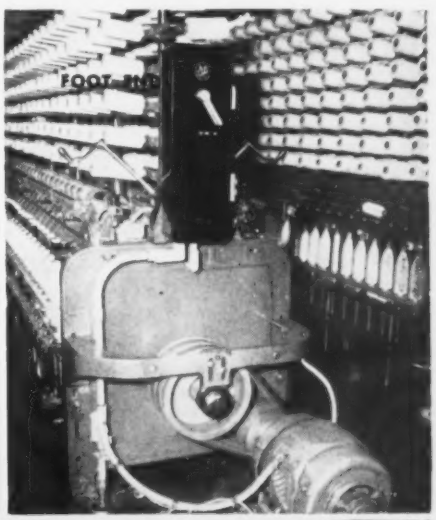
TWISTERS

IT'S THE LITTLE THINGS *that make a Big Difference*

1. A new type metallic traversing thread board that helps assure even yarn tension.
2. An anti-friction tension pulley that helps to maintain constant spindle speed.
3. Wet twisters are equipped with an automatic water feed control that keeps the same level in troughs, thus permitting even water penetration.
4. A ball bearing thrust washer in the builder drive that prevents dwelling at top and bottom of the stroke and particularly aids effective high speed winding.
5. An electric stop motion that prevents starting of machine when doors are open.
6. A silent chain drive from cylinder to jack shaft.
7. Replaceable bottom roll bearings to reduce maintenance cost.
8. Anti-friction bearings on cylinders that save power and maintenance.







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Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U.S.A.

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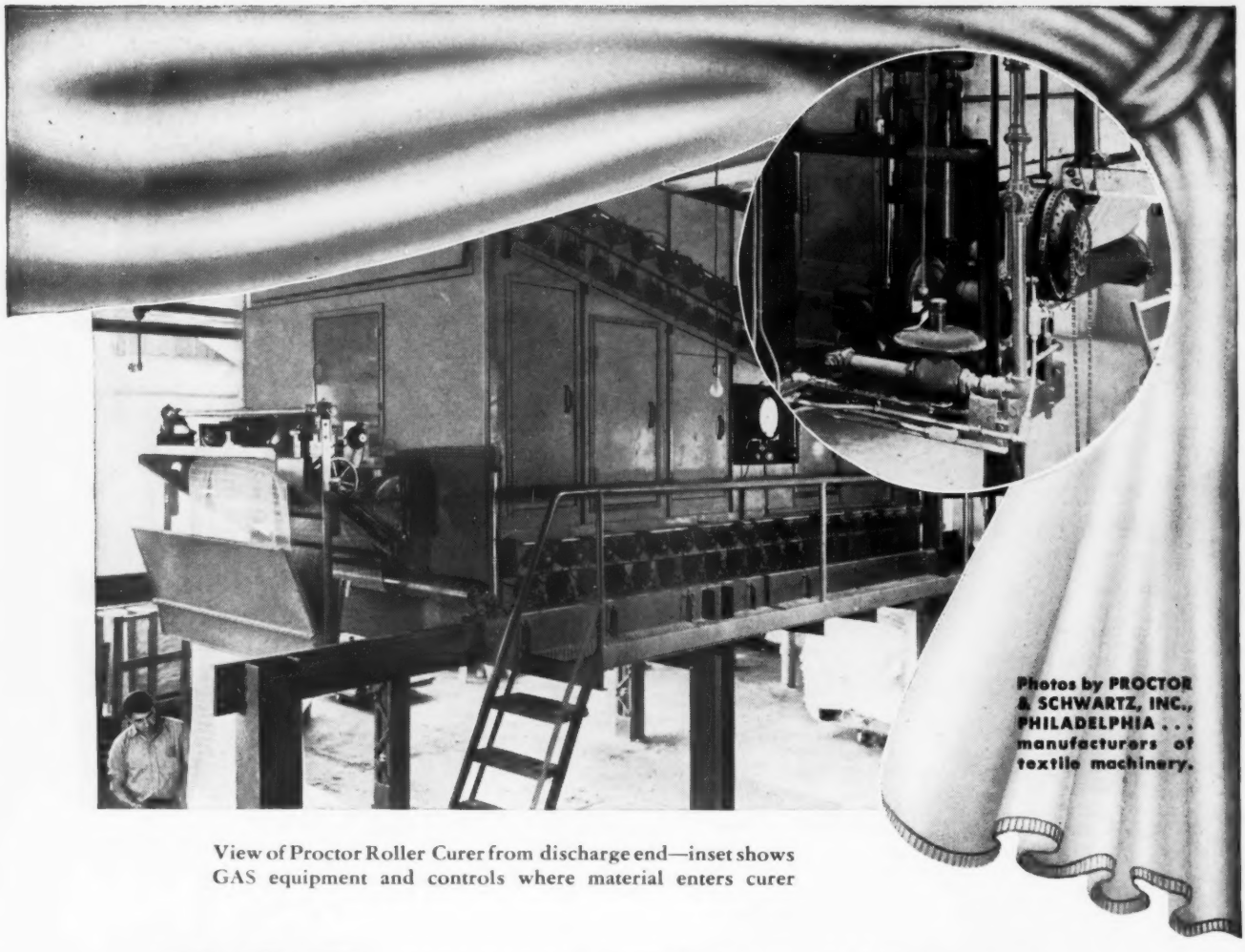


Photos by PROCTOR & SCHWARTZ, INC., PHILADELPHIA . . . manufacturers of textile machinery.

View of Proctor Roller Curer from discharge end—inset shows GAS equipment and controls where material enters curer

GAS FULFILLS TEXTILE INDUSTRY'S NEED FOR FLEXIBLE, *Controllable Fuel*

Textile equipment manufacturers such as the pioneering firm of Proctor and Schwartz, Inc., take advantage of every characteristic of the productive flames of GAS in the development of processing units such as the Proctor Roller Curer.

One New England textile finisher uses the Proctor Roller Curer for curing resin-treated fabrics of cotton and rayon. The heat processing is accurately controlled by adjusting the lineal speed of the fabric and the temperature of the curing zone—just the sort of temperature adjustment which can be made quickly and accurately with simple GAS control equipment.

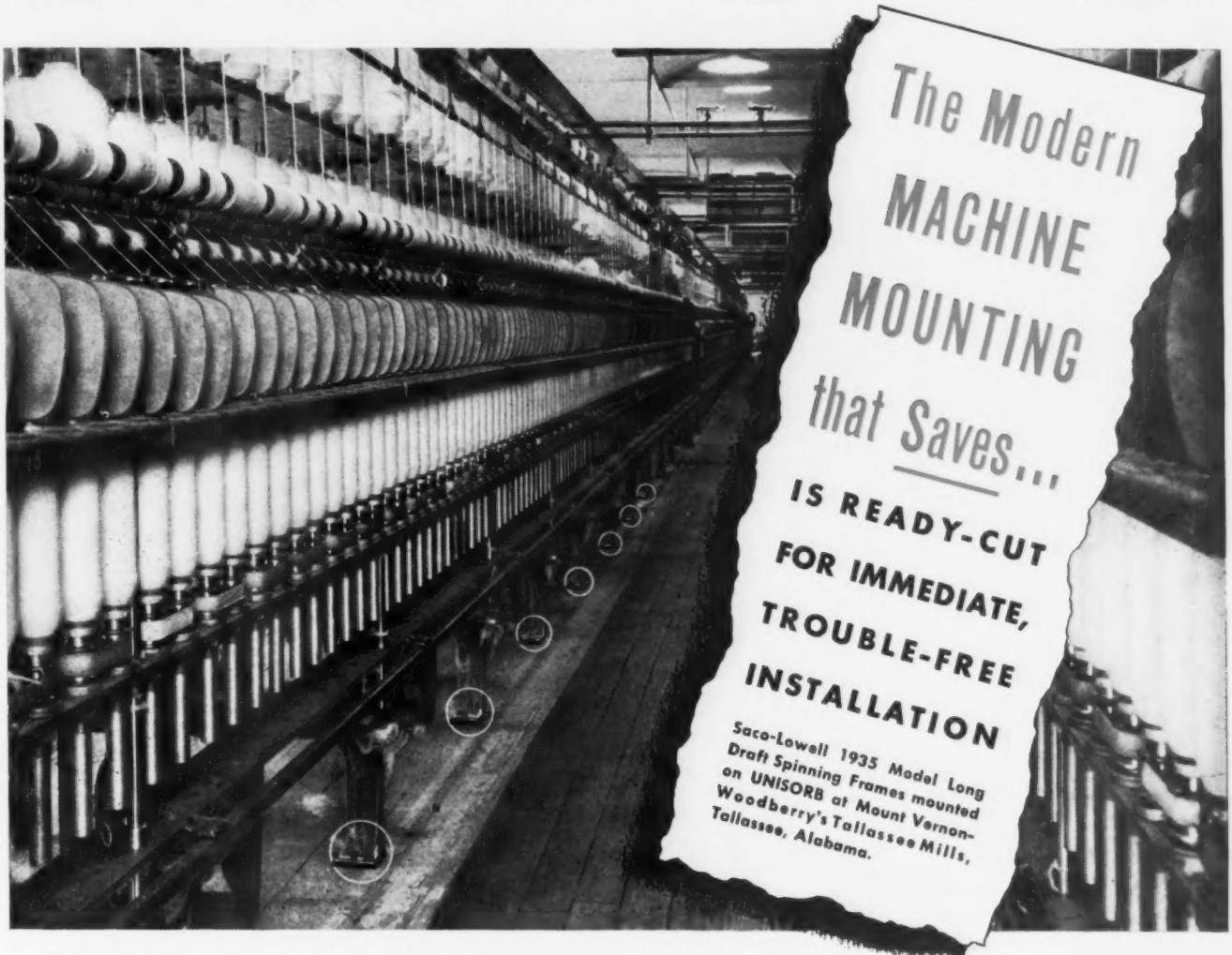
Throughout the textile industry the flexibility and accurate controllability of GAS have made possible the high-speed heat-processing of all types of fabrics. In hundreds of mills the productive flames of GAS perform operations such as singeing, polymerizing, drying, slashing, curing.

In your own textile productioneering there's a place for GAS and modern Gas Equipment; you can obtain up-to-date information from your local Gas Company representative.

AMERICAN GAS ASSOCIATION
420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

UNISORB



The Modern MACHINE MOUNTING that Saves...

IS READY-CUT FOR IMMEDIATE, TROUBLE-FREE INSTALLATION

Saco-Lowell 1935 Model Long Draft Spinning Frames mounted on UNISORB at Mount Vernon-Woodberry's Tallassee Mills, Tallassee, Alabama.

For anchoring preparatory machinery, looms and finishing machinery, the textile industry has taken UNISORB-Mounting straight to its heart.

Convenience, or *service*, is probably one of the more important reasons.

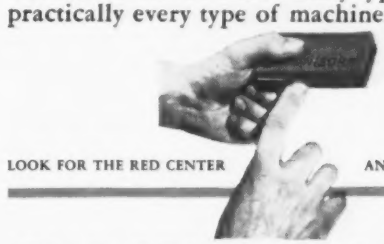
When you've decided to "Mount it on UNISORB" —the modern anchoring that saves *all-ways*—all you need send us is the type of machine to be UNISORB-Mounted . . . how many . . . who made it . . . serial number . . . model number. Then it's up to us, and the tedious details are out of your hands.

You'll get delivery that really is *immediate.* Your UNISORB pads will be ready for immediate installation upon receipt. No trouble, no messy cutting or trimming.

And when you install machines on UNISORB . . . the *only* truly modern, up-to-date way . . . you know that means no bolts, no lag screws, no destructive floor-drilling. You know, moreover, it's the anchoring that absorbs from 60% to 85% of transmitted vibration and noise, which means a big saving to you in building and machine repair, replacement and maintenance.

And by reducing noise, UNISORB-Mounting decreases worker fatigue, promotes better work and greater production.

UNISORB can be used on any type of flooring with practically every type of machinery and equipment.



LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS

Offices: New York, Philadelphia, Chicago, Detroit
Sales Representatives: San Francisco, St. Louis
Mills: Johnson City, New York; Millbury, Mass.; Jackson, Mich.

Foreign Representatives: ARGENTINA—PARAGUAY: Roberto Zander, 345-353 Juan Jaures, Buenos Aires; BRAZIL: Cia Industria E. Comercio, Glossop, Rua Visconde de Inhauma, 62, Caixa Postal, 265, Rio de Janeiro; Rua Florencio de Abreu 438/442, Caixa Postal, 1546, Sao Paulo; CHILE: W. L. Robinson, Casilla No. 4075, Santiago; COLOMBIA: C. E. Halaby & Co., Ltd., Airmail Box 650, Medellin; ECUADOR: Richard O. Custer; S. A., Guayaquil St. 937, P. O. Box 2753, Quito; URUGUAY: Roberto Zander, Montevideo Ltda., Calle Uruguay, 1711, Montevideo; VENEZUELA: Herbert Zander & Co., P. O. Box 1291, Caracas; PERU: Custer & Thommen Soc. An., Casilla 733, Lima; CENTRAL AMERICA: Agencias Unidas S. A., Apartado 391, Guatemala City, Guatemala, C. A.; MEXICO: Slobotzky, S. A., Avenida Uruguay 55, Apartado 1192, Mexico, D. F.; EUROPE: Switzerland, Ernst Gersbach, Zurich; EASTERN MEDITERRANEAN AREA: The Arlind Corp., 509 Madison Avenue, New York 22, N. Y.

The TUFFERIZING PROCESS—developed and exclusively owned and used by Howard Bros. cuts and forms wires with an accuracy never before obtained in the making of card clothing. The wires are formed with precision and placed accurately in the famous Tuffer Foundation . . . when drawn on the cylinder they fit snugly—*sides perfectly parallel and every point in place.*

"Tuffer" Men help you to get Better Quality

Howard Bros. representatives are qualified to help you get the best possible results from your carding equipment. They are men of specialized training and experience who can give valuable assistance in improving quality and increasing efficiency in YOUR card room.

Here's what one large textile unit says: "We appreciate the excellent service your company has given us in the past. Your man came up and worked in our carding department, checked the condition of our card clothing, *doing an excellent job and to our benefit.* It is a pleasure to put our appreciation on the dotted line."

Time and time again we receive similar words from Howard Bros. customers.

Talk over your particular problems with a Howard Bros. representative. There's no obligation on your part. Get in touch with your nearest Howard Bros. plant or office.

A-4

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga., and Gastonia, N. C.
Branches: Philadelphia, Pa., and Blanco, Texas
Direct Representation in Canada

TUFFER CARD CLOTHING — ***IMPROVES PRODUCTION ALL ALONG THE LINE***

new rayon twisters get the right start for a long life

when the
Gulf Lubrication Engineer
is "in the picture"

The Foreman of this modern rayon throwing mill (right) consults with a Gulf Lubrication Engineer on the lubrication of these recently installed "down twisters" of latest design.

HIGH-SPEED PRODUCTION of strong uniform yarns—that's what modern machines like this are built for!

And they'll deliver top performance indefinitely when lubrication is efficient. Accurately finished parts fitted with close tolerances must have the protection of the best lubrication to insure precision work and continuous operation.

When you bring the Gulf Lubrication Engineer into the picture in your mill, you enlist the cooperative service of a man whose broad experience and knowledge can be a real help to you in maintaining efficient production from every machine you operate.

He will recommend the lubricants and application methods exactly suited to your equipment and operating conditions. Then, periodically he will check the performance of each machine and suggest any changes in lubrication practice that are necessary to provide for new operating conditions.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask a Gulf Lubrication Engineer to call.

GULF OIL CORPORATION · GULF REFINING COMPANY

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
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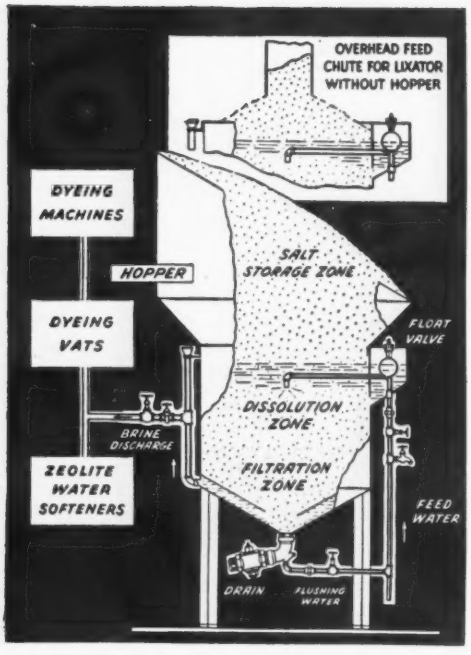
GULF INDUSTRIAL LUBRICATION

Q. How much Dry Salt in a Cubic Foot?

A. Anywhere from 66 to 84.5 pounds.

Q. How much Sterling Rock Salt in 1 gallon of Lixate Brine?

A. Always Exactly 2.65 pounds!



HOW THE LIXATOR WORKS

In the dissolution zone – Flowing through a bed of rock salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone** –Through use of the self-filtration principle **originated by International,** the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ Chemical and bacterial purity to meet the most exacting standards for brine
- ✓ Unvarying salt content of 2.65 pounds per gallon of brine
- ✓ Crystal-clear brine
- ✓ Continuous supply of brine
- ✓ Automatic salt and water feed to Lixator
- ✓ Inexpensive, rapid distribution of brine to points of use by pump and piping

For Accurate Salt Measurement "PASS the SALT" by LIXATOR

THE LIXATE PROCESS for making 100% saturated, self filtered, crystal clear brine *automatically*... is saving textile dyers thousands of dollars annually because it *measures salt accurately!*

For too much dry salt in dye baths, or unevenly distributed salt, causes spotting, streaking and white edges. Too little salt fails to exhaust dyes thoroughly, opens the way to uneven dyeing.

With the Lixate Process, accurate salt measurement is a certainty because each gallon of Lixate brine always contains exactly 2.65 pounds of Sterling Rock Salt. And it is a simple matter to add precisely the right amount volumetrically for efficient exhaustion of the dye.

Not only is guesswork eliminated, but so, too, are the labor and time of measuring salt by hand or mechanical devices, or by weight without regard to salt's varying moisture content.

Full details of how the Lixator saves money in your industry through accurate salt measurement, improved products and reductions in time and labor will gladly be given.

Get the full story on why accurate salt measurement is *always* possible with Lixate brine. Send for your copy of our *free* pamphlet *today!*

INTERNATIONAL SALT COMPANY, INC., Dept. TW-8, Scranton, Pa.

Gentlemen:
Please mail absolutely free your pamphlet, "How Lixate Brine Solves the Problem of Accurate Salt Measurement."

Name _____

Firm _____

Street _____

City _____ *State* _____

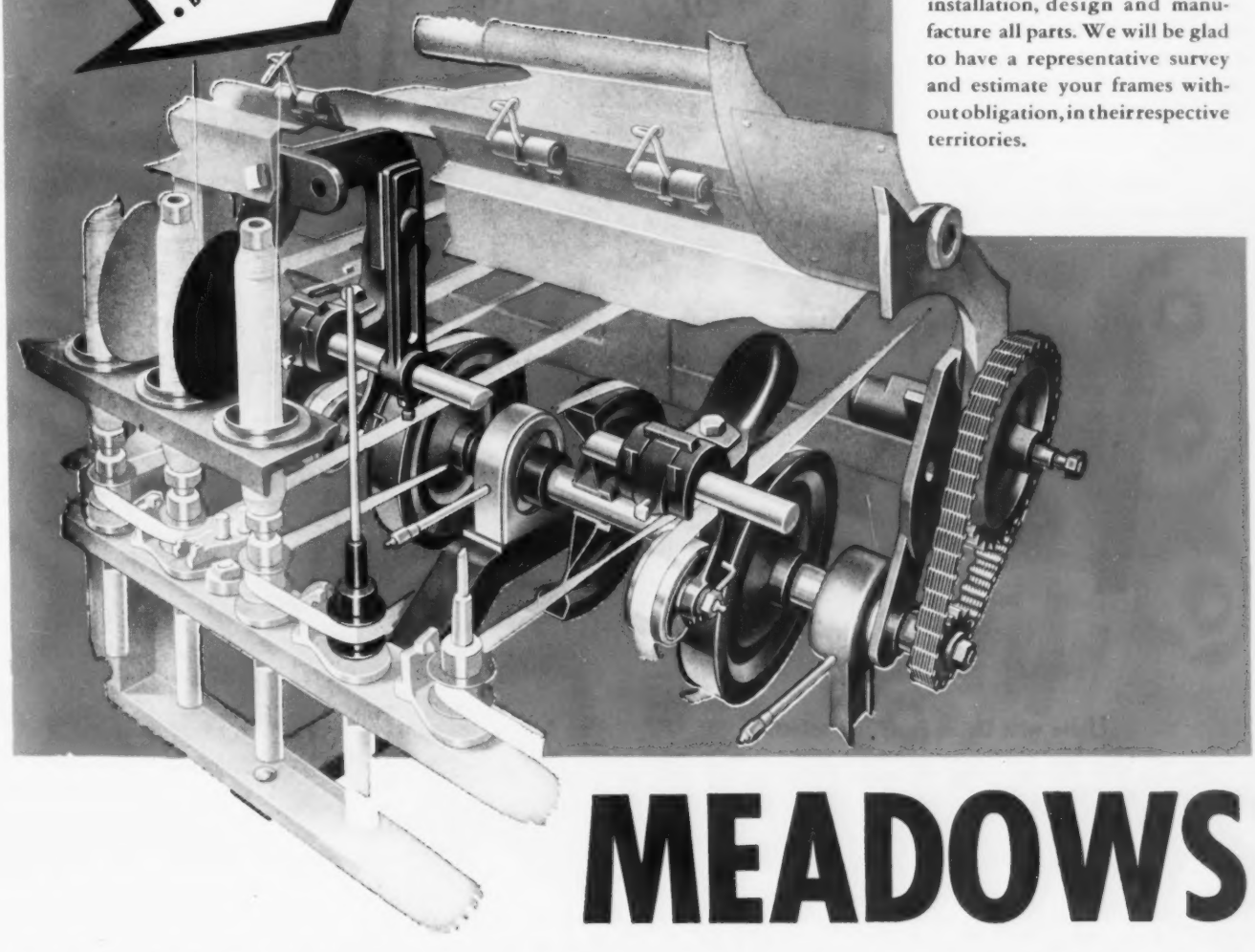
The LIXATE Process
Reg. U. S. Pat. Off.
for making brine
INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

Step Up Production of OLD FRAMES

- Fewer Ends Down!
- No More Heads to Jerk Out!
- No More Cylinder Trouble
- Less Vibration!
- Uniform Speed and Twist!
- Better Package-More Yarn!

MILLS have found that the *quickest,* most *economical* way to increase production on old-model band-driven or tape-driven frames is with Meadows Conversions...Consisting of Ball Bearing Tape Tension Pulleys, light weight solid aluminum Separators, silent Chain Drive, Individual Drive Pulley, and ground and polished Shafting mounted on heavy-duty ball bearings—these conversions assure *low power* consumption, no *tapes off* due to choked or sticky pulleys, less wear on yarn, increased *output* and *no more cylinder trouble.*

We engineer and service each installation, design and manufacture all parts. We will be glad to have a representative survey and estimate your frames without obligation, in their respective territories.



MEADOWS

MANUFACTURING COMPANY • ATLANTA, GA.

UNION PACIFIC

The Governor of Colorado *invites You*

THE STATE OF COLORADO
EXECUTIVE CHAMBERS
DENVER

WILLIAM LEE KNOUS
GOVERNOR

To American Industry:

Look long at Colorado.

A vigorous, young state, awake to its opportunities yet aware of its needs, will challenge your attention and stimulate your imagination.

Natural resources we have in abundance with the water and power for their development. Our labor force is highly adaptable, our markets are rapidly expanding.

Our health-giving climate, our scenic setting make Colorado a soul-satisfying home for you and your families.

And most important — we know where we're going! Our leaders in business, industry, agriculture and education, through their Resources Development Council, are charting a course toward a sound, stable future for our people.

Look long at Colorado — it offers you much!

Lee Knous
Governor

Lee Knous

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners

for that Velvet Touch

A NEW AND SUPERIOR CATIONIC SOFTENER FOR ALL FABRICS

it combines the most in softness and fullness with the least in shade change and effect on light fastness.

if one of these is your problem, investigate
SAPAMINE WL

1 Yarn softening—package or skein
2 Piece goods finishing
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5 Modifying resin finishes
6 Softening chlorinated or shrinkproof wool yarn

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Telephone: Murray Hill 3-8650

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For Manufacturers and Merchants

Inquiries as to our services solicited

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ESTABLISHED 1840

A useful guide to better results with Stainless

Here in convenient form we have condensed the essential facts about the various grades of U·S·S Stainless Steel that will assist you in determining broadly which is most suitable for your needs. Keep in mind, however, that this chart merely indicates general characteristics and basic applications.

To get *optimum* results from these service-tested Stainless Steels, any fabricator, and especially any one contemplating the use of Stainless for a new product, should obtain expert advice in its selection and fabrication. This we are prepared to furnish.

Our Stainless engineers are specialists in the use of these materials. Ask for their cooperation. You'll find their suggestions practical and extremely helpful not only in determining the grade of U·S·S Stainless that will do the best job for you, but in showing how it can be handled most efficiently on your equipment.

15 types of U·S·S Stainless Steel to choose from

	grade	characteristics	when or why used
austenitic	U·S·S 18-8 Type 302	Excellent corrosion resistance.	General all-purpose grade for food, dairy, chemical, and architectural uses.
austenitic	U·S·S 18-8 S Type 304	Carbon is limited to 0.08% maximum.	For applications similar to U·S·S 18-8 Type 302, but offers superior corrosion resistance in weld-affected areas.
austenitic	U·S·S 18-8 Ti Type 321 U·S·S 18-8 Cb Type 347	Similar in general corrosion resistance to U·S·S 18-8 and U·S·S 18-8 S. Stabilizing additions immunize corrosion attack of heat-affected areas.	High temperature service, 800° F to 1600° F. For severe corrosion conditions in welded assemblies which cannot be subsequently annealed.
austenitic	U·S·S 18-8 Mo Type 316	Exceptional corrosion resistance, improved creep strength.	Severe corrosive conditions, particularly those involving pit-type corrosion.
austenitic	U·S·S 18-8 FM Type 303	Galling and seizing reduced greatly in machining.	Gears, valves, bolts, screws, or other machined products.
austenitic	U·S·S 25-12 Type 309	Exceptionally stress resistant at high temperature exposure.	In service where temperatures up to 1900° F are encountered.
austenitic	U·S·S 25-20 Type 310	Offers superior resistance to oxidation.	Applied where very high temperatures are involved.
ferritic	U·S·S 17 Type 430	Good corrosion resistance.	Automotive trim and interior architectural trim.
ferritic	U·S·S 27 Type 446	Limited formability, generally not adapted to severe drawing. Excellent scaling resistance.	Principally used at high temperatures up to 2000° F for static parts not subjected to high stress.
ferritic	U·S·S 12 Type 410	Martensitic grade, strengthened by conventional heating and quenching.	Engaging mechanical parts, such as pump rods and valves.
ferritic	U·S·S 12 Turbine Type 403	Composition basically same as U·S·S 12.	Modified analysis suited for turbine blades and similar application.
ferritic	U·S·S 12 AL Type 405	Composition basically same as U·S·S 12.	Modified analysis for applications requiring field welding where air-hardening cannot be corrected by heat treatment.
ferritic	U·S·S 12 FM	Added elements give extra machinability over U·S·S 12.	Used for valve parts and other articles made on automatic machines.
ferritic	U·S·S 5 Type 501	Welding hardens; annealing restores ductility.	Used in petroleum industries for strength, and resistance to corrosion and oxidation at moderately high temperatures.
ferritic	U·S·S 5 S Type 502	Basically same as regular U·S·S 5.	Modified analysis reduces tendency to weld-harden.

forms available

SHEETS are supplied in plain or polished finishes which are standardized. They are designated as: No. 1—Hot Rolled, Annealed, and Pickled; No. 2D—Dull Cold Rolled; No. 2B—Bright Cold Rolled; No. 4—Standard Polish on either One or Both Sides; No. 6—Tampico Brushed; No. 7—High Luster Polished.

STRIP is supplied to ordered requirement in coils or straightened and cut lengths. It should be ordered to a decimal thickness, with width and finish to suit the particular application.

PLATES AND BARS are furnished hot rolled, annealed, and pickled; bars are also furnished cold finished, centerless ground, or polished. Special sections and plates are furnished with pickle finish and require coarse abrasives in preliminary grinding, where a polish is desired.

TUBULAR PRODUCTS are furnished in most popular grades of U·S·S Stainless Steel. A variety of finishes are obtained by grinding and polishing cold drawn, annealed, and pickled tubing.

ROUND WIRE is available in coils within a size range of .5" to .005" inclusive. Straightened and cut material is limited to .030" and coarser. Finishes available include pickled, metallic coated, oil, diamond, and soap drawn, ground, and polished. A variety of cold heading wire, spring wire, weaving wire, armature binding wire, and wire rope are also available in stainless steels.

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CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
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U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

UNITED STATES STEEL

L. F. Dommerich & Company

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Telephone: Murray Hill 3-8650

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STRIP is supplied to ordered requirement in coils or straightened and cut lengths. It should be ordered to a decimal thickness, with width and finish to suit the particular application.

PLATES AND BARS are furnished hot rolled, annealed, and pickled; bars are also furnished cold finished, centerless ground, or polished. Special sections and plates are furnished with pickle finish and require coarse abrasives in preliminary grinding, where a polish is desired.

TUBULAR PRODUCTS are furnished in most popular grades of U·S·S Stainless Steel. A variety of finishes are obtained by grinding and polishing cold drawn, annealed, and pickled tubing.

ROUND WIRE is available in coils within a size range of .5" to .005" inclusive. Straightened and cut material is limited to .030" and coarser. Finishes available include pickled, metallic coated, oil, diamond, and soap drawn, ground, and polished. A variety of cold heading wire, spring wire, weaving wire, armature binding wire, and wire rope are also available in stainless steels.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

8-1039

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

UNITED STATES STEEL

THE FOSTER WINDERS

AND HOW THEY GREW!

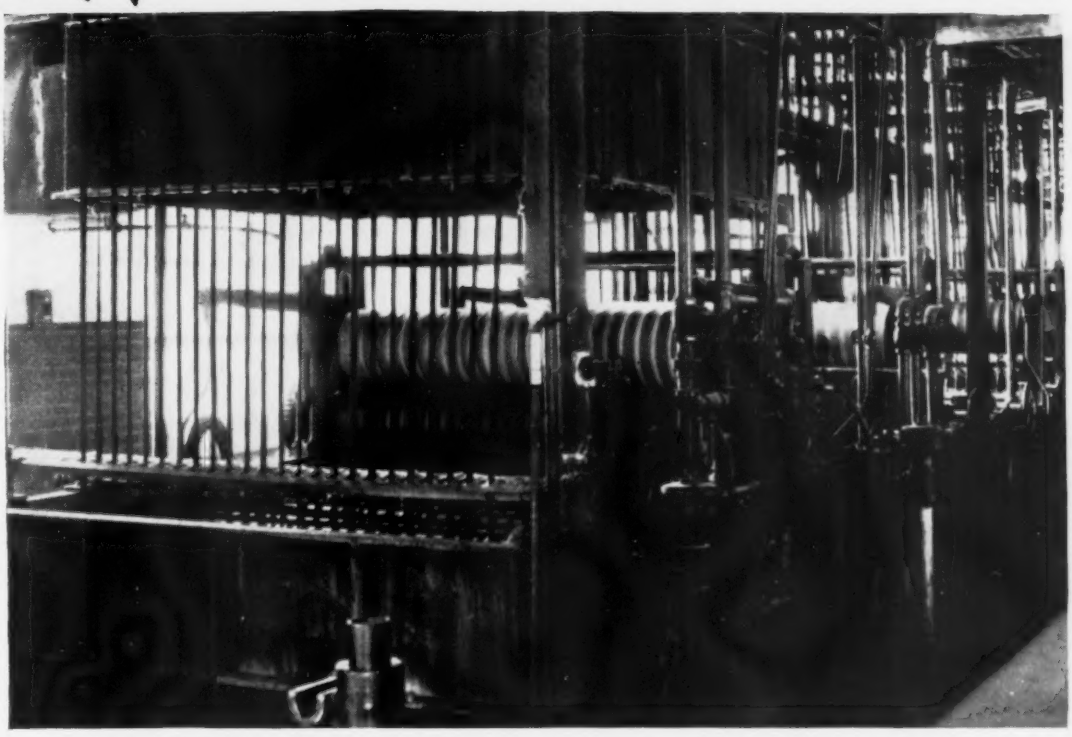
● In between then and now Foster has continued to make better winders for better yarn. The progress from the 1900 vintage winder above to the modern Model 102 below, is obvious. Less obvious and more difficult to appreciate, but perhaps most important to you, is the 57 years of accumulated experience that have made Foster a name synonymous with whatever is best in winding machinery, and the Foster cone the standard of excellence throughout the world. Foster has used its 57 years well.

FOSTER MACHINE CO. **WESTFIELD, MASSACHUSETTS**

Southern Office: Johnston Building, Charlotte, North Carolina; Canadian Representative: Ross, Whitehead & Company, Limited, University Tower Bldg., 660 Ste. Catherine St., West, Montreal, Quebec; European Representative: Muschamp Taylor Ltd., Manchester, England

"STAINLESS STEEL cuts our replacement costs..."

—say dyehouse executives



These ENDURO oxidizing swifts have been in continuous use for more than twelve years and still are in good condition. More uses for ENDURO include agitators, dry cans, dye beams, dye kettles, package dyeing machinery, fulling machines, oxidizing swifts, reels, rolls, sizing equipment and yarn boxes.

Enthusiastic comments by actual users are convincing evidence of the savings in replacement costs which follow the installation of ENDURO Stainless Steel equipment.

Because ENDURO belongs to the alloy steel family—toughest of metals—it resists all forms of rough use and abuse . . . provides hard, long-wearing surfaces. And, because those surfaces are unsurpassed in their resistance to rust and corrosion, ENDURO greatly outlasts ordinary materials.

Add the facts that stainless steel is easy to clean and keep clean . . . permits lightning-fast color changeover and holds shades "true" . . . protects sheer fabrics . . . and it's easy to see why more and more textile manufacturers are specifying ENDURO on new equipment orders. Republic's Booklet 444 gives you complete information . . . describes and pictures specific ENDURO installations. Write for your free copy.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, New York

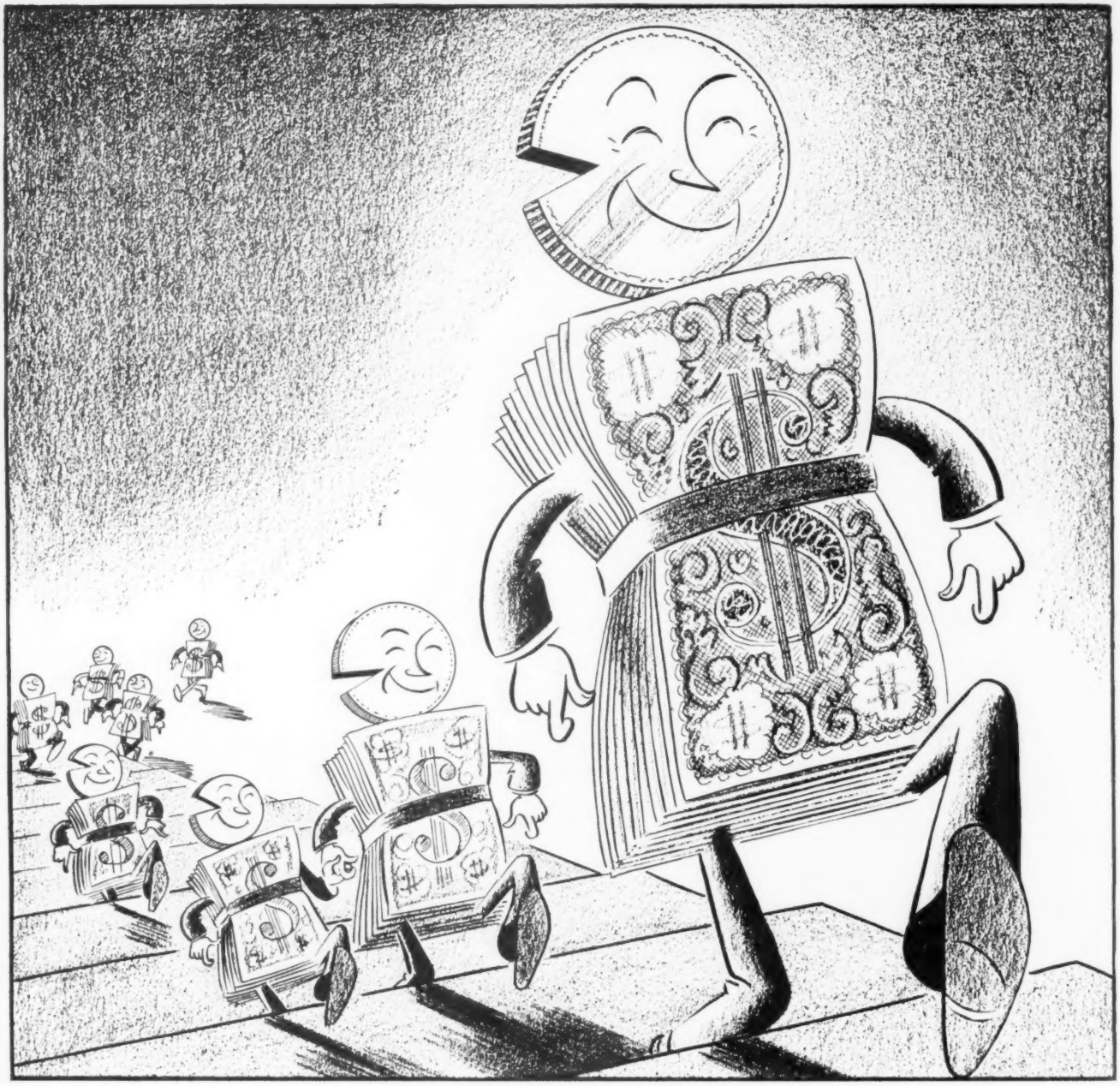
REPUBLIC STEEL

Enduro

STAINLESS STEEL

RESISTANT TO RUST AND CORROSION • RESISTANT TO HEAT • HIGH IN STRENGTH • EASY TO FABRICATE
EASY TO CLEAN • FREE FROM CONTAMINATION • EYE APPEALING • LONG LASTING • LOW ULTIMATE COST

PRODUCT OF REPUBLIC STEEL



Small Steps are Easy

When You Earmark a Tangible Cash Fund for Loom-Replacement

As new looms become available, mills can take the necessary steps toward meeting weaveroom modernization needs . . . if a systematic loom-replacement program has been worked out *without a blind spot* . . . and if that program has been implemented by an actual, *earmarked* cash fund.

That *blind spot* may be just this: Loom depreciation has *not* been figured accurately unless liberal allowance has been made not only for postwar depreciation . . . *but also for the full duration and stepped-up rate of wartime depreciation.* Then you can figure what percentage of your prewar looms should be replaced annually . . . at least 10% of your least efficient looms, but probably more.

In fact, it's good business to figure considerably more than 10%, for the sooner you can comfortably complete your weaveroom modernization, the quicker and greater will be the return on your investment in the new Crompton & Knowles Looms which give you so much higher production, at lower cost, of better-quality fabrics. Is *your* loom-replacement fund set up . . . and operating?

Crompton & Knowles Loom Works

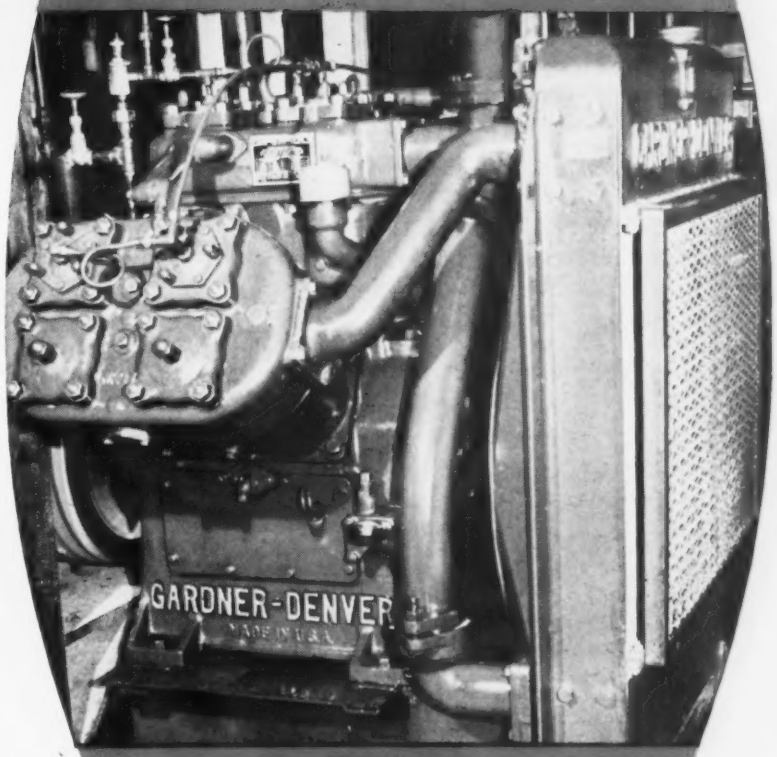
WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

You get ALL THREE with a "WB" . . .

- Greater air output
- In less space
- At lower cost



Gardner-Denver "WB" Two-Stage, Water-Cooled Compressor

Gardner-Denver "WB" Vertical Compressors have the compactness you need for installation in limited space . . . yet because of their special design, these compressors have high efficiencies. Air output is much greater than that obtained with single-stage compressors of equivalent piston displacement. All cylinders are completely water-jacketed, assuring reliable operation in any temperature and at any altitude. Other valuable "WB" features are:

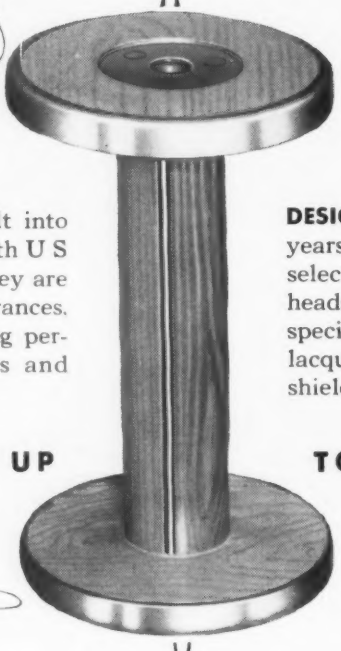
- *Combination radiator and air-cooled intercooler permits use where cooling water is scarce or of poor quality.*
- *Completely water-jacketed cylinders for maximum operating efficiency in any temperature or at any altitude.*
- *Duo-Plate cushioned air valves—simple, durable, unusually quiet.*
- *Timken tapered roller main bearings.*
- *Crankcase of GarDurloy alloy—completely enclosed, dust tight, oil tight.*

For complete information, write Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER
SINCE 1859

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

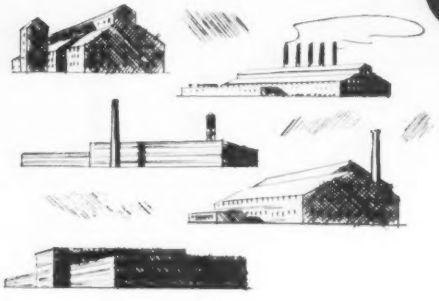
Speed Up Twisting ...SPOOL UP WITH U S



TO GET THE BETTER PRODUCTION built into today's better equipment, start *right*—with U S Spools. Made to protect yarn quality, they are precision-built to the closest possible tolerances, and accurately balanced for true-running performance, reducing wear on bolsters and spindles.

DESIGNED WITH "KNOW-HOW" based on 91 years' experience, U S Spools are made from selected northern stock, with fiber or wood heads, and are supplied in all sizes to meet any specifications. They are finished plain, oiled or lacquered and are fitted with metal bushings or shields when required.

U S SPOOLS MEASURE UP



AMPLE PLANT CAPACITY. Six plants in North and South locations closely keyed to textile production areas, are fully equipped to handle any size orders. U S has cooperated with textile machinery manufacturers for 91 years, and can meet the closest possible limits of tolerances in all tests for dimensions, weight and balance.

TO EVERY TWISTING NEED

CONSULT A U S REPRESENTATIVE regarding your spool requirements. You'll find him a thoroughly practical millman, familiar with all types of textile processes, and able to offer experienced advice on the use of U S products for any purpose. Let him help you in choosing Bobbins, Shuttles, Cones, Rolls, or other U S products.

U S BOBBIN & SHUTTLE CO.

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GREENVILLE, S. C.
CHICAGO AGENT:
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JOHNSON CITY, TENN.
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ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

For Better Protection

- Corrugated and Solid Fibre Boxes
- Folding Cartons
- Kraft Grocery Bags and Sacks
- Kraft Paper and Specialties

In these days of ever-increasing display merchandising, it's more important than ever that your products reach the dealer and consumer as attractive as when they leave your plant.

Your nearest Gaylord Sales Office will show you how Gaylord Boxes can reduce damage claims and help to protect your good will. Call them.

GAYLORD CONTAINER CORPORATION, General Offices: SAINT LOUIS

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Jersey City • Indianapolis • Houston • Minneapolis • Detroit • Jacksonville • Columbus • Fort Worth • Tampa
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Won't SHAKE LOOSE!

UNBRAKO

Reg. U. S. Pat. Off.

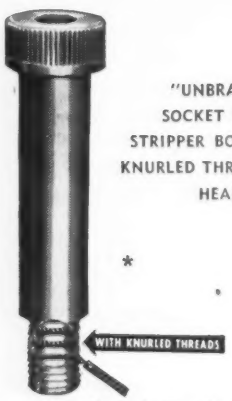
KNURLED
Self-Locking
Square Head Set Screws

The "Unbrako" SELF-LOCKING Square Head Set Screws, as shown, are "real Fasteners" . . . they positively *will not* shake loose! A loose "Fastener" *invariably causes* shut-downs, *invariably causes* loss of production, and *invariably causes* increased costs—each of which these "Unbrako" Screws absolutely prevent. Why?—because of the popular "Unbrako" *Knurling* feature—which is incorporated on the internal cup point (A), and on the external cup point (B) . . . making *these* Set Screws "Unbrako" SELF-LOCKERS.

If and when the head of an "old style" square head set screw twists off, just to get it out costs many times the price of the screw these days . . . especially if it's in an awkward place! But the "Unbrako" Square Head Set Screw, made of a special alloy steel, is a "brute" for strength—it's practically *impossible* to twist its head off,—thus, helping to reduce the cost of maintenance materially. Ask for *your* copy of the "Unbrako" Catalog of Screw Products.

Write us for the name and address of your nearest "Unbrako" Industrial Distributor.

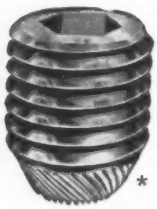
Our patented "Unbrako" Knurled Socket Set Screws and Stripper Bolts will lock themselves in most any screw application. They won't *shake loose.* Millions and millions in use. Knurling of Socket Screws originated with "Unbrako" in 1934.



"UNBRAKO" SOCKET HEAD STRIPPER BOLT WITH KNURLED THREADS AND HEAD

The Knurled Threads of this "Unbrako" Socket Head Stripper Bolt make it a "real Fastener" . . . a Self-Locker that positively **will not** shake loose! Knurling of the head allows for fumble-proof grip — even if fingers and head are oily—thus, materially **speeding** production.

"UNBRAKO" SOCKET SET SCREW WITH KNURLED CUP POINT



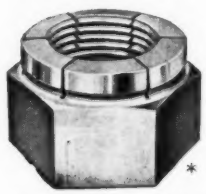
"WON'T SHAKE LOOSE"

The Knurled Cup Point of the "Unbrako" Socket Set Screw makes it a Self-Locker — positively **will not** shake loose — even when subjected to extreme vibration! "Unbrako" Socket Screw Products are available in Stainless Steel and other metals or metal alloys.

"UNBRAKO" SOCKET SET SCREW WITH KNURLED THREADS

The Knurled threads of this UNBRAKO "Won't Shake Loose" Socket Set Screw make it a Self-Locker, too, for use where the point does not lend itself to knurling.

"FLEXLOC" SELF-LOCKING NUTS



"WON'T SHAKE LOOSE"

The All - Metal, One - Piece "Flexloc" is a Self-Locking Nut that won't budge, regardless of vibration, except when a wrench is used. It can be used over and over without losing much of its torque and being a "stop" nut it will stay locked in any position on a threaded member — "a real fastener," if ever there was one. Let a few free samples convince you.

OVER 45 YEARS IN BUSINESS

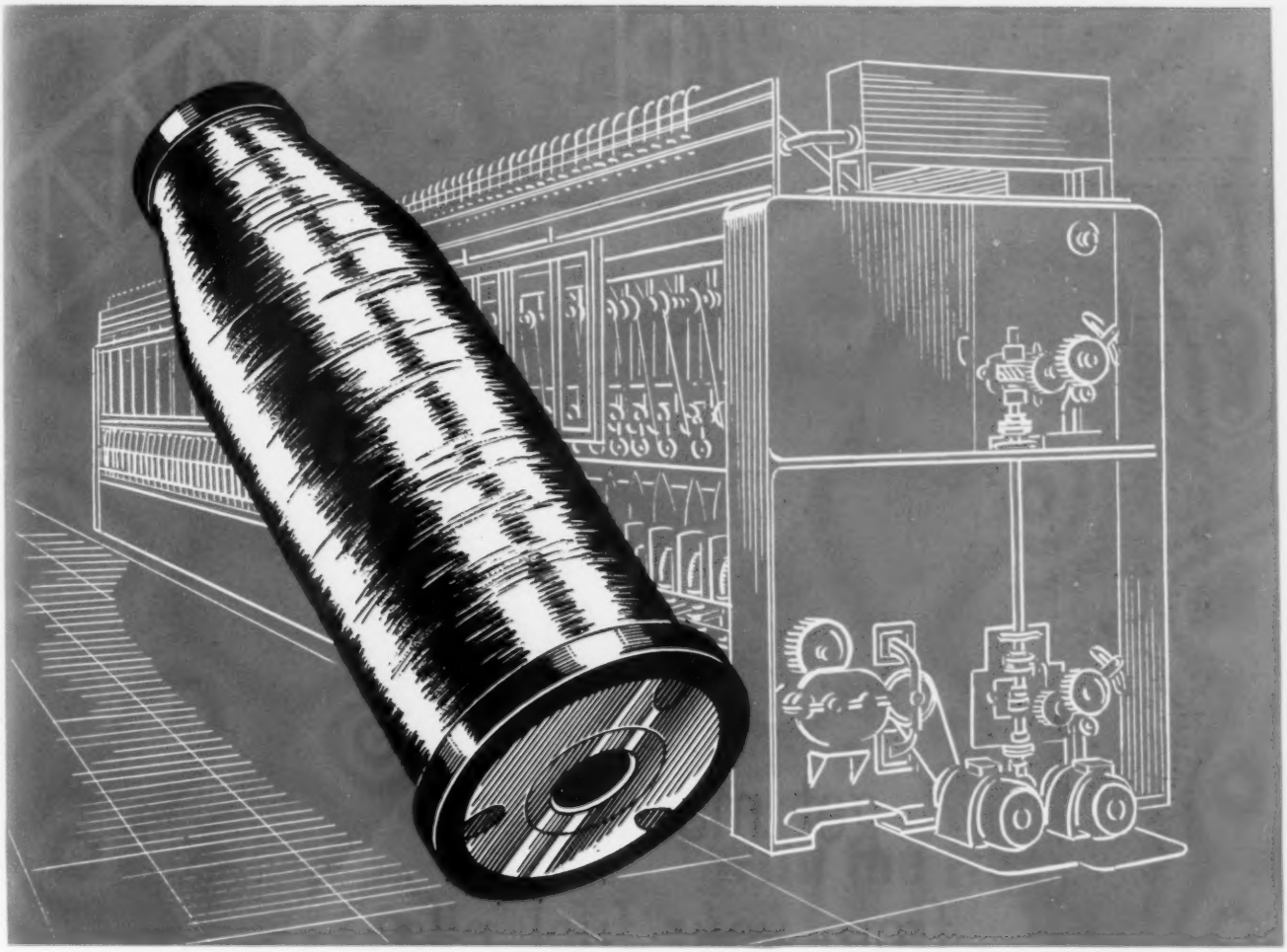
*Pat'd and Pats. Pend.

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 571

BRANCHES: CHICAGO DETROIT INDIANAPOLIS ST. LOUIS SAN FRANCISCO

YES! Tycol Alweave Textile Spindle Oils perform better . . . BETTER . . . BETTER



Tycol Alweave Textile Spindle Oils perform better because:

. . . *Tycol Alweave Textile Spindle Oils* are low viscosity oils that maintain their lubricating value at spindle operating temperatures, letting you operate continually at top speed.

. . . *Tycol Alweave Textile Spindle Oils* are light colored and available in both mineral and compounded types for a wide variety of mill processes.

. . . *Tycol Alweave Textile Spindle Oils* step up production by reducing spindle drag, thread breakage and bolster losses.

For further information about Tycol Alweave Textile Spindle Oils and the rest of Tycol's "engineered lubricant" line, contact your nearest Tide Water Associated Office today.

TYCOL
INDUSTRIAL LUBRICANTS

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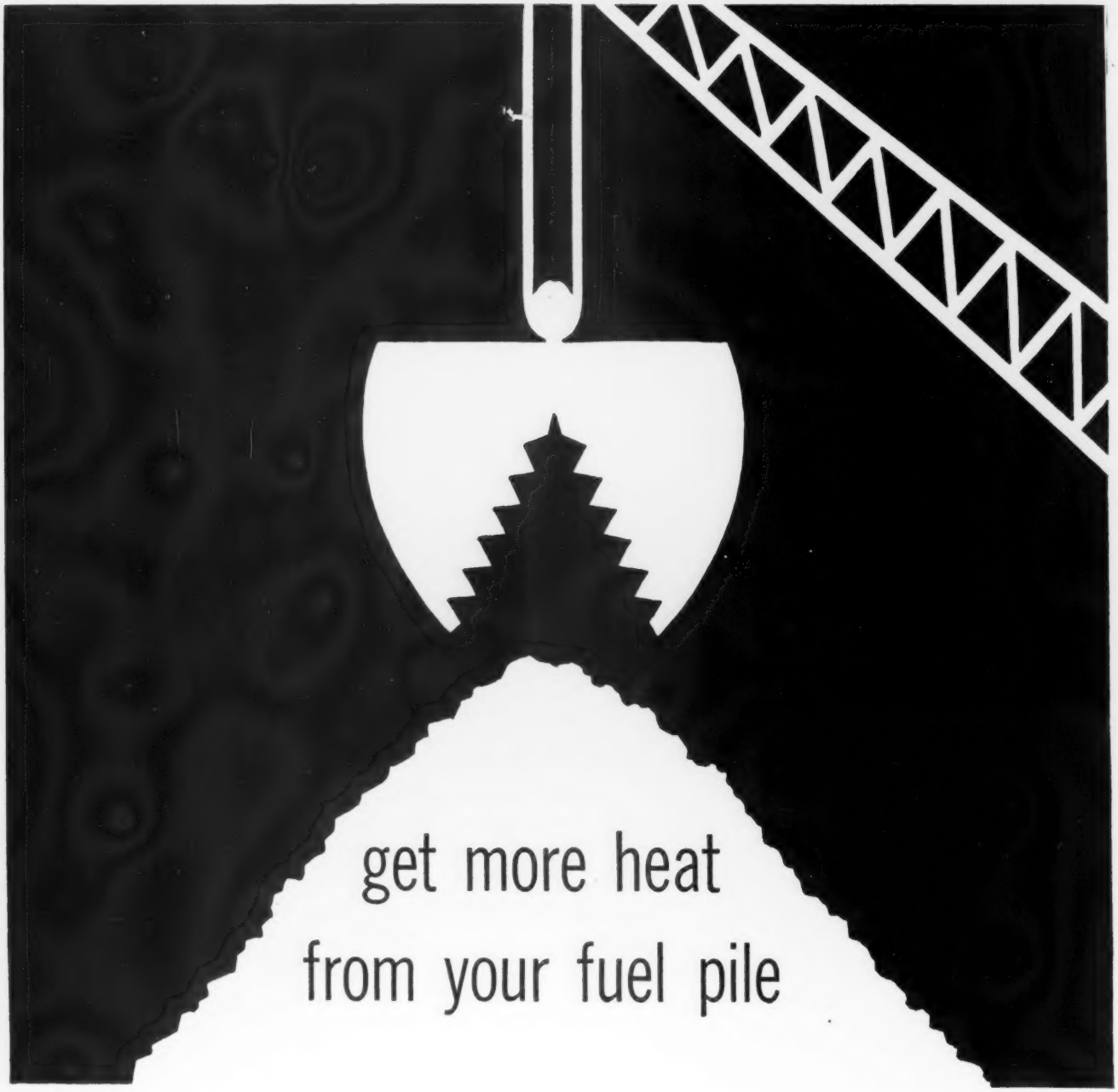
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

LUBRICATION — "ENGINEERED TO FIT THE JOB"



Do it the easy way with Carrier Heat Diffusers. The scientific design of these standard units gives maximum heating service from every pound of fuel.

Multiple discharge outlets and adjustable louvers direct an even flow of heat to spots where it's needed. There can be no dead spots or cold corners. Exact control with Carrier non-freeze steam-distributing tube coils and modulating valves—or the Carrier Therm-adjust with modulating control at full steam pressure—gives you all the heat demanded by outdoor temperatures . . . but no more. That's fuel economy.

Carrier Heat Diffusers are engineered for long, hard service in factories, warehouses, garages and other industrial-type buildings where controlled heat is desired. They're adaptable to drying and ventilating as well as heating. They provide a wide range of capacities—up to 1,570,000 Btu per hour. Ready to operate as shipped. Sectional design permits floor mounting or suspension with vertical or horizontal discharge. Propeller type fan. Unit Heaters are also available—with capacities up to 502,000 Btu per hour.

Carrier Heat Diffusers and Unit Heaters bear the stamp of Carrier's long, wide experience in air conditioning, refrigeration and industrial heating. This skill is your assurance of years of dependable service. Carrier Corporation, Syracuse, New York.

Carrier **AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING**

Introducing

NEW FLEXIBILITY

Any Speed . . .
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A-c. or D-c. . .

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Any type enclosure of Reliance A-c. or D-c. Flange-mounted *Precision-Built* Motor may be chosen. A full selection of speeds from 4 to 1,430 rpm. is offered with motor ratings from 1 to 60 hp. For details of the many advances in design behind the superior performance of this sturdy, compactly constructed Reliance GearMotoR, write today for Bulletin C-404.

Built by RELIANCE ELECTRIC & ENGINEERING COMPANY and PHILADELPHIA GEAR WORKS, INCORPORATED

RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"

THE ENGINEERING "KNOW-HOW" IS IN THE PACKAGE, TOO!

A Federal Ball Bearing's long, friction-free life in textile equipment is equal to the sum of these parts:

1. Balls uniformly spherical within .000025"...not varying in dia. more than .00005" in any bearing.
2. Through-hardened races concentric with each other to prevent run-out—whatever the r.p.m.
3. Sides of rings parallel to each other and the ball track.
4. Ball tracks ground to chatter-free finish and just the right radius.
5. Bores cylindrical, not tapered or bellmouthed.

Add to these the vital "component"—Federal engineering "know-how"—which goes into every bearing assembly—and you complete this precision package.

50 years of living with bearing problems—manufacture and application both—will be brought to bear in solving your particular bearing need when you consult Federal. And Federal can draw upon its complete line of ball bearings—in every range and size—to suit your requirements.

Now is a good time to get acquainted with Federal Bearings. Write for Catalog "K".

THE FEDERAL BEARINGS CO., INC. • POUGHKEEPSIE, NEW YORK

Makers of Fine Ball Bearings

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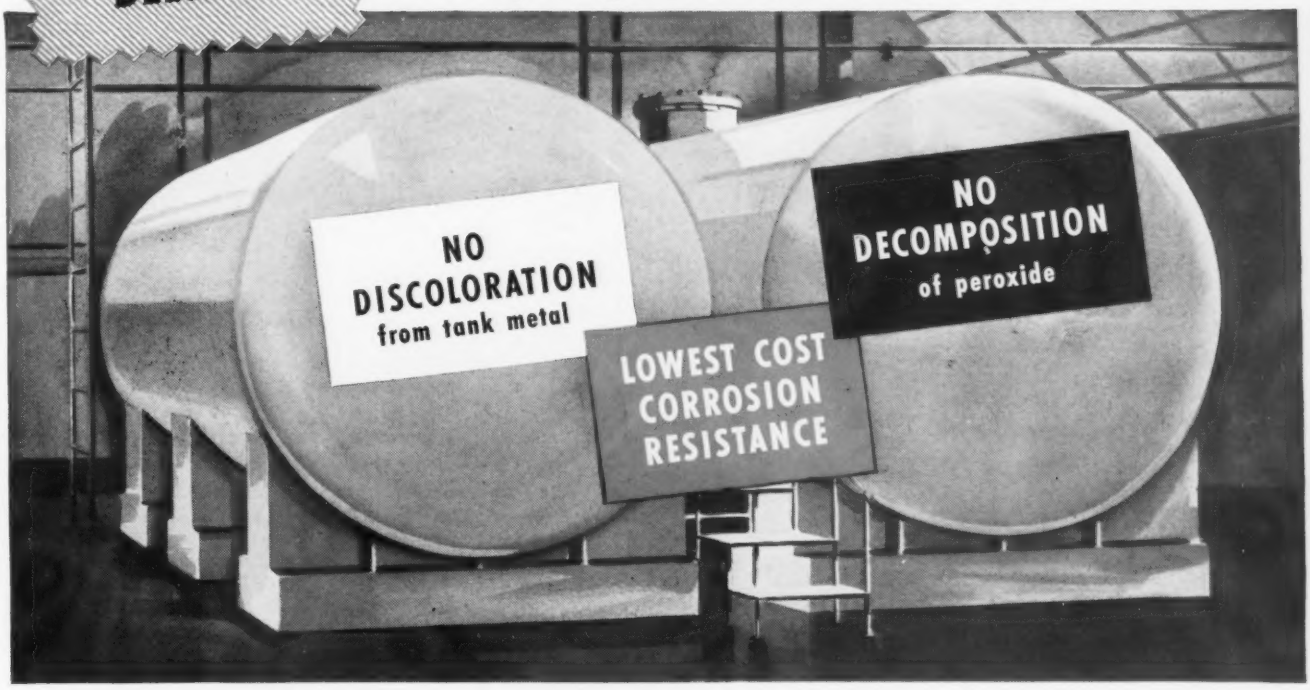
Quality *since 1908*

FEDERAL BALL BEARINGS

ONE OF AMERICA'S LEADING BALL BEARING MANUFACTURERS

CONTINUOUS BLEACH . . . . it's only as good as the tanks it's stored in . . .



INSIST ON TANKS OF ALCOA ALUMINUM

Safeguard your continuous bleach process—store hydrogen peroxide in Alcoa Aluminum Tanks!

You avoid discoloration of bleach and yarn by tank metal corrosion. When peroxide is stored in tanks of Alcoa Aluminum, your yarn is safe from red rust stains and streaks.

Hydrogen peroxide stays at full strength longer in aluminum tanks. Aluminum does not catalyze the decomposition of hydrogen peroxide.

Tanks of Alcoa Aluminum are the lowest-cost, corrosion-resistant tanks you can buy. Inside and out, they're easier to keep clean.

Alcoa has the facilities and know-how to build peroxide tanks to your specifications—and deliver Alcoa-made tanks promptly. Or ask your tank builder to utilize Alcoa Aluminum and our engineering help in fabricating tanks. Call your nearby Alcoa sales office, or write ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.

Alcoa Aluminum for other mill operations, too!

Pipe and fittings of Alcoa Aluminum help keep peroxide at full strength, help prevent discoloration.

Slasher hoods of Alcoa Aluminum stay bright and clean, resist corrosion, don't discolor materials.

Separators for spinning frames and twisters help promote smoother operation because of decreased load on ring rails.

Warp beams and loom beams, new or replacement, are dimensionally stable, don't warp or splinter.

Here and dozens of other places Alcoa Aluminum can speed production, reduce waste, help you save money because it's strong, light in weight, corrosion-resistant.

ALCOA FIRST IN ALUMINUM

ALCOA 1888 1948 60 YEARS OF SERVICE

SMOOTH SAILING..

takes more than good weather and a fair wind...

For smooth sailing depends to a great extent on the efficiency of the control exercised by the pilot.

Now in handling media in an industrial plant, the pilot is a valve and "smooth sailing" is dependent on the efficiency of its control.

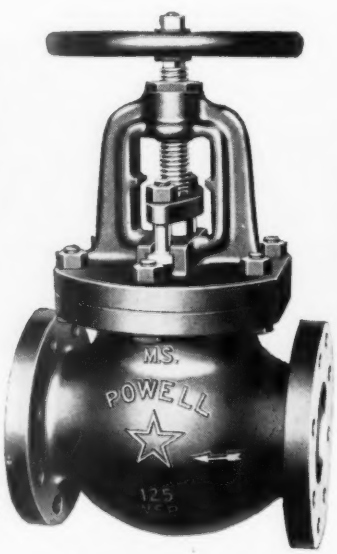
And when it comes to flow control equipment, Powell Valves are making an important contribution to "smooth sailing" in every branch of industry.

Powell Valves are noted for long, dependable performance at a minimum cost of maintenance. Moreover, there's a Powell Valve—in Bronze, Iron, Steel, or any required Corrosion-Resistant material—to satisfy the demands of every known service.

Fig. 559—125-pound Iron Body Bronze Mounted Swing Check Valve. Flanged ends, bolted flanged cap and regrindable, renewable bronze seat and disc.

Fig. 241—Large 125-pound Iron Body Bronze Mounted Globe Valve. Made in sizes 2" to 16", inclusive. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also available in All Iron. ➡

Fig. 1816—Large 125-pound All Iron Gate Valve. Made in sizes 2" to 30", incl. Has bolted flanged yoke, outside screw rising stem and tapered solid wedge.



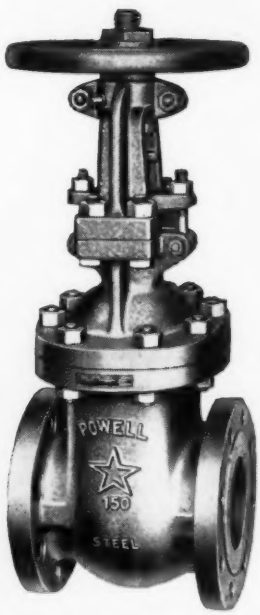


Fig. 1503—Class 150-pound Cast Steel Gate Valve with flanged ends, bolted flanged yoke, outside screw rising stem, tapered solid wedge.

The Wm. Powell Co., Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES

RAPIDASE
for de-sizing

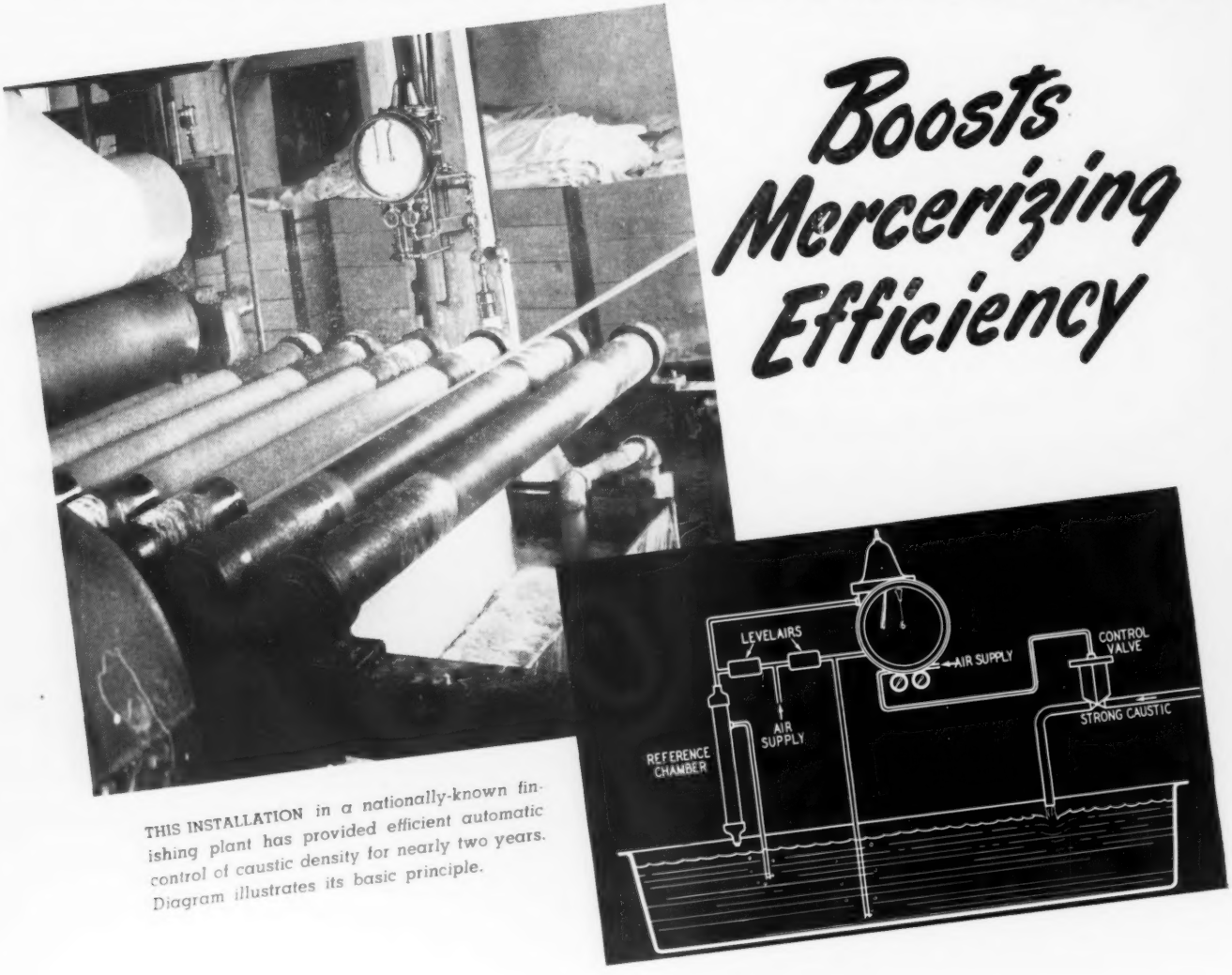
The dependable, rapid and economical de-sizing agent for cottons, rayons and mixed goods. Applicable over a wide range of processes, temperatures and speeds.

HAS PROVED PARTICULARLY SUITABLE FOR CONTINUOUS DE-SIZING

WALLERSTEIN COMPANY, INC. • 180 MADISON AVENUE • NEW YORK 16, N. Y.

THIS CLOSER CONTROL OF CAUSTIC DENSITY

Boosts Mercerizing Efficiency



THIS INSTALLATION in a nationally-known finishing plant has provided efficient automatic control of caustic density for nearly two years. Diagram illustrates its basic principle.

HERE'S a simple, *completely automatic* system for controlling the strength of the saturating bath. Proved in actual operation, it not only improves the mercerizing finish, but also assures a uniformity of product that cannot be obtained by manual control.

In addition, this control system reduces chemical cost by avoiding excessively high concentrations of caustic, and it eliminates hydrometer sampling and log-keeping.

Controls and Records

Completely automatic, this control system never gets tired, never forgets or misinterprets a reading. And it gives a *continuous record* of controlled caustic density as proof of operating efficiency.

Variations in density are instantly detected and measured by the recording instrument, using the dependable bubble-tube system as the primary element. The instrument, in turn, automatically adjusts the air-operated valve to maintain the exact concentration of caustic desired.

Easy to Install . . . and Operate

This completely automatic Foxboro caustic density control system is normally installed without change in existing equipment, and with no serious interruption to the mercerizing process. Maintenance is negligible. Why not check with a Foxboro Engineer, or write today for details to **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.**

FOXBORO
REG. U. S. PAT. OFF.

INSTRUMENTATION
INDICATING · RECORDING · CONTROLLING

In knitting fine hosiery—
every detail demands attention

For example, Ankle Tension

PROPER TENSION across ankle and instep is essential in assuring smooth fit and freedom from wrinkles. And this tension can be achieved only by the most careful control of every factor that influences the character and quality of the knitting.

The precision-engineered quality and uniformity of Torrington Needles help you maintain closer control over knitting at this and many other vital steps in the knitting of fine hosiery. Rely on Torringtons for accuracy and dependability in performance.

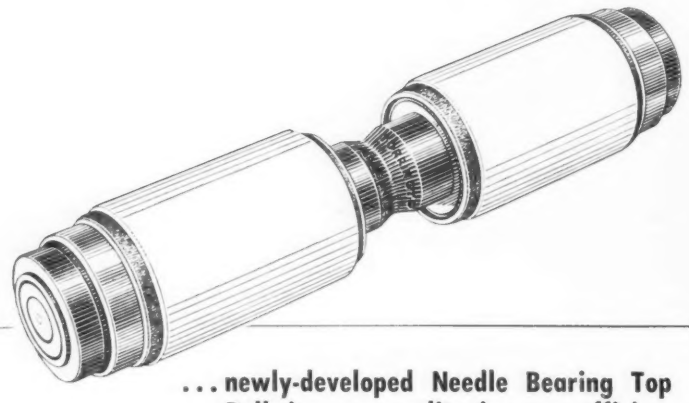
THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
ESTABLISHED 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C.
Boston • St. Louis • Toronto, Canada. *Pacific Coast Representative:*
E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California
Broadgate House, 7-10, Eldon Street, London E.C.2, England

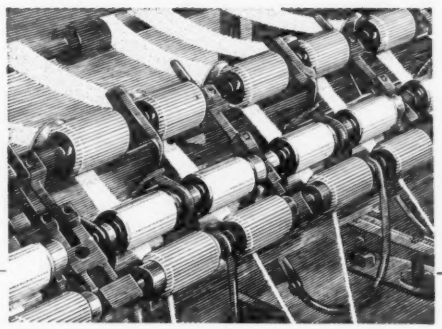
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

Torrington Needle Bearing Top Rolls Help Keep Ends Up . . . Costs Down



. . . newly-developed Needle Bearing Top Rolls improve quality, increase efficiency and result in economy of operation.

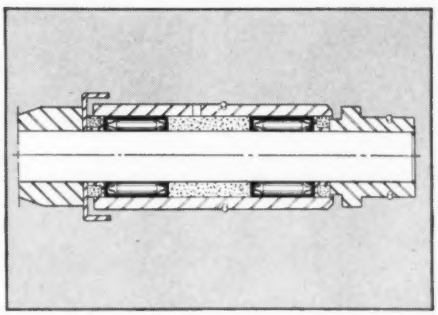


Less time out for piecing-up can be expected as one result of the smooth anti-friction operation of Torrington Middle Top Rolls equipped with Needle Bearings.

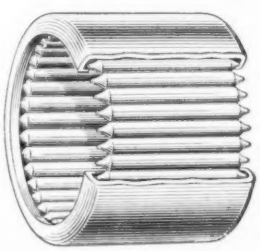
NEW TORRINGTON NEEDLE BEARING TOP ROLLS have been adopted as standard equipment in the middle row of the Saco-Lowell Shaw Controlled Draft System for roving and spinning frames.

Among the outstanding advantages of these New Needle Bearing Top Rolls are: longer service life assured by the high radial load capacity of the compact anti-friction Needle Bearings; bearing size permits use of large arbor for freedom from deflection; large oil reservoir insures efficient lubrication for long periods; design prevents oil leakage and accumulation of fly or lint between arbor and shell.

Torrington Needle Bearings lend themselves readily to compact design and easy fabrication and assembly. They have been time-tested in spinning, weaving, finishing, knitting and many other machinery applications. The anti-friction ease of operation reduces power input and produces better quality in the finished material. The specialized experience of Torrington's engineers is offered to help you adapt these low-cost anti-friction bearings to *your* machinery.



Cross-section shows ready adaptability of Needle Bearings to compact design. Use of two precision bearings per boss eliminates "rock," contributing to uniform quality of roving or yarn.



THE TORRINGTON COMPANY

Torrington, Conn. • South Bend 21, Ind.

District Offices and Distributors in Principal Cities

TORRINGTON *NEEDLE* **BEARINGS**

NEEDLE • SPHERICAL ROLLER • STRAIGHT ROLLER • TAPERED ROLLER • BALL • NEEDLE ROLLERS

NOPCO PRESENTS

UNISIZE

AMAZING NEW 6-IN-1 SIZE FOR ACETATE AND VISCOSE RAYON WARPS

1 Product 6 Functions

As a
1 Binder
2 Softener
3 Penetrant
4 Lubricant
5 Humectant
6 Defoamer

EASY TO USE—JUST MIX WITH WATER

"UNISIZE" is a *complete*, one-product size for Acetate and Viscose Rayon warps of all constructions . . . its unique, balanced properties provide advantages far surpassing those of conventional warp sizing compounds . . . its *simplicity, effectiveness* and *economy* have won unanimous and enthusiastic approval from users.

WHAT "UNISIZE" IS

"UNISIZE" is *chemically* a synthetic, proteinized, water-soluble polymer; *physically* a light tan free-flowing granulation—a single, *one-product* size which performs *six* essential sizing functions.

ADVANTAGES OF "UNISIZE"

SIMPLE, READY TO USE you waste no time predissolving raw materials . . . you need no complicated formulas. "UNISIZE"—a *model of simplicity*—affords the big advantage of a *single* product replacing the many complex mixes of the past. *Extremely soluble*, "UNISIZE" dissolves quickly and completely without gelling or lumping.

CLEAR-CUT FORMULATION you simply weigh the required amount of "UNISIZE" . . . 25 lbs. for Viscose warp, 50 lbs. for Acetate . . . and add it to 100 gallons of water heated to 180° F. Then, stir slowly for 8 minutes—run in quetch at 150° F.

EVEN DISTRIBUTION ON WARP in the quetch, there's no foaming, scumming or separation to prevent even distribution of the size on your warp. The warp comes off the last can without sandy hand—*smooth* and *firm*.

SUPERIOR BOND, FLEXIBLE FILM creating a *strong* bond, forming a *flexible, non-tacky* film, "UNISIZE" gives you maximum filament protection . . . eliminates taping . . . prevents sticking on drying cans.

ANTISTATIC PROPERTIES by preventing static during the *slashing* operation, "UNISIZE" eliminates banding. These same properties also reduce static during *weaving*.

UNIFORM SIZING "UNISIZE" will give you uniform sizing, warp after warp . . . the result of Nopco's rigid control through every step of its manufacture.

EASE OF BOIL-OFF "UNISIZE" scours out readily during normal boil-off procedure. No enzymes are required.

FINALLY, "UNISIZE" GIVES YOU FINER WARPS with smoother ends . . . *better* conditioned for *better* weaving. ECONOMICAL SIZING . . . on a performance basis, "UNISIZE" costs you far less than conventional sizing treatments . . . you'll save in both time and labor.

"UNISIZE" will solve your sizing problems. Send for a working sample today, or ask to have a Nopco representative run a trial in your mill soon. Write to:

NOPCO CHEMICAL COMPANY
2302 Essex St., Harrison, N. J.
(formerly National Oil Products Company)
Branches: BOSTON • CHICAGO • CEDARTOWN, GA. • RICHMOND, CALIF.

UNISIZE

6-IN-1 WARP SIZE FOR VISCOSE AND ACETATE

NOPCO EVOLVED THROUGH RESEARCH

If you need STEEL—don't give up

Call us First!

As long as various sizes, types and grades of steel continue to be in short supply, we offer you this assurance . . . if you call us, we'll certainly make an all-out effort to take care of your requirements from one or the other of our eleven conveniently located warehouses.

It may be good news to you that our stocks of Stainless Steel bars, plates, sheets, pipe and tubing are now adequate to meet your everyday requirements. Alloy and High Strength Steels are also making their way out of the "hard-to-get" class of material.

Remember too that our stocks are changing from day to day . . . steel is coming in—as well as going out. Items out of stock the last time you called, may be available today. So, regardless of what your requirements may be, remember to contact our warehouse nearest you for the best possible service.

SYMBOL OF SERVICE *for Steel Users*

UNITED STATES STEEL SUPPLY COMPANY
USS STEELS SERVICE

UNITED STATES STEEL SUPPLY COMPANY

CHICAGO (90)	1319 Wabansia Ave., P. O. Box MM	BRUnswick 2000
BALTIMORE (3)	Bush & Wicomico Sts., P. O. Box 2036	EDmondson 4900
BOSTON	176 Lincoln St., (Allston 34), P. O. Box 42	STadium 2-9400
CLEVELAND (14)	1394 East 39th St.	HEnderson 5750
LOS ANGELES (54)	2087 East Slauson Avenue P. O. Box 2826—Terminal Annex	LAfayette 0102
MILWAUKEE (1)	4027 West Scott St., P. O. Box 2045	Mitchell 5-7500
NEWARK (1), N. J.	Foot of Bessemer St., P. O. Box 479	Bigelow 3-5920 REctor 2-6560—BErgen 3-1614
PITTSBURGH (12)	1281 Reedsdale St., N. S.	ALlegheny 4200
ST. LOUIS (3)	311 S. Sarah St., P. O. Box 27	LUcas 0440
SAN FRANCISCO (1)	1940 Harrison St., P. O. Box 368	MArket 1-4988 ENterprise 1-0017
TWIN CITY	2545 University Ave., St. Paul (4), Minn.	NEstor 7311

UNITED STATES STEEL

"You say I owe a lot of my good looks to Swift's Soaps?"
"You sure do. We've stepped up the appearance of all our fabrics since we started using Swift's Soaps for scouring, dyeing and fulling."
"I understand Swift is one of the largest producers of the materials that go into soap. They have what it takes to make quality soaps for every textile need."
"Right. Another thing to remember is that Swift's Soaps are formulated by one of the world's best-equipped fats and oil laboratories."

There's a Swift Distribution Point near you

Swift's Soaps
for every textile use

Vertex Flakes
557 Flakes
White Ribbon Flakes
Wool Flakes

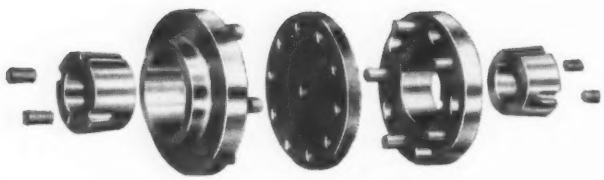
In barrels and bags

SWIFT & COMPANY
Soap Department,
Chicago 9, Ill.

NOW! TAPER-LOCK* FLEXIBLE COUPLING!

It's new! It's different! A packaged Flexible Coupling . . . available from stock . . . and ready to install *without reboring*. It's another Dodge development for mechanical power transmission that saves time, cuts cost!

* TRADE MARK REGISTERED U.S. PAT. OFF.



- ✔ Built with the famous TAPER-LOCK bushing (patented).
- ✔ Available from stock in a wide range of standard bores. *No reboring!*
- ✔ Fastens to shaft with the firmness of a shrunk-on fit.
- ✔ Easy on—easy off. Can be disconnected without moving coupled machines.
- ✔ Compact design occupies minimum space on shaft. Safe! No projecting parts.
- ✔ "Pin Type" design with oak tanned sole leather center disc provides flexibility, resiliency and strength.
- ✔ Made of close grained semi-steel and machined all over to insure balance and true running.

DODGE MANUFACTURING CORPORATION
MISHAWAKA, INDIANA

DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER

(or write the factory) for complete bulletin on this newest Dodge contribution to better mechanical transmission of power. The Transmissioneer—your local Dodge distributor—is a factory trained specialist. Look for his name under "Power Transmission Equipment" in your classified phone book.

Copyright, 1948, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY,
ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

AN *Open Letter* TO THE WOOLEN INDUSTRY ABOUT *Proxol*

THE PROCTER & GAMBLE COMPANY

Executive Offices
CINCINNATI, 1, OHIO, U.S.A.

THE WOOLEN INDUSTRY
U. S. A.

Gentlemen:

As one of America's leading manufacturers of textile detergents, Procter & Gamble has acquired an intimate knowledge of wool processing problems. Our prime interest, of course, has been with processes involving detergents. However, since every step in wool manufacture is affected by preceding steps we have, of necessity, become familiar with all stages of wool processing.

Time and time again our technical men have run into problems caused by the unsatisfactory performance of wool oils. Such oils not only produced plenty of processing headaches but also detracted from the saleability of the finished goods. The most common shortcomings of these oils were:

Unstable emulsions
Uneven spreading properties
Failure to emulsify in hard or cold water
Poor static conduction, causing excess fly
Gummed-up or rusted card clothing
Damaged aprons and tapes
Inadequate lubrication and drag, causing more breaks and less production
Tendency to oxidize, causing discoloration, poor scouring and bleaching, uneven dyeing
Tendency to develop undesirable odors in the finished cloth
Excessive soap and detergent usage

Careful analysis of the weaknesses inherent in many existing wool oils led to the Company's decision to develop an oil with all the carding, spinning, and scouring characteristics demanded by woolen mills.

Today - after more than five years of laboratory work and plant usage - that oil, PROXOL, is a reality. Proxol offers the wool processor many unique advantages. We urge you to prove this to your own satisfaction with a thorough trial of Proxol.

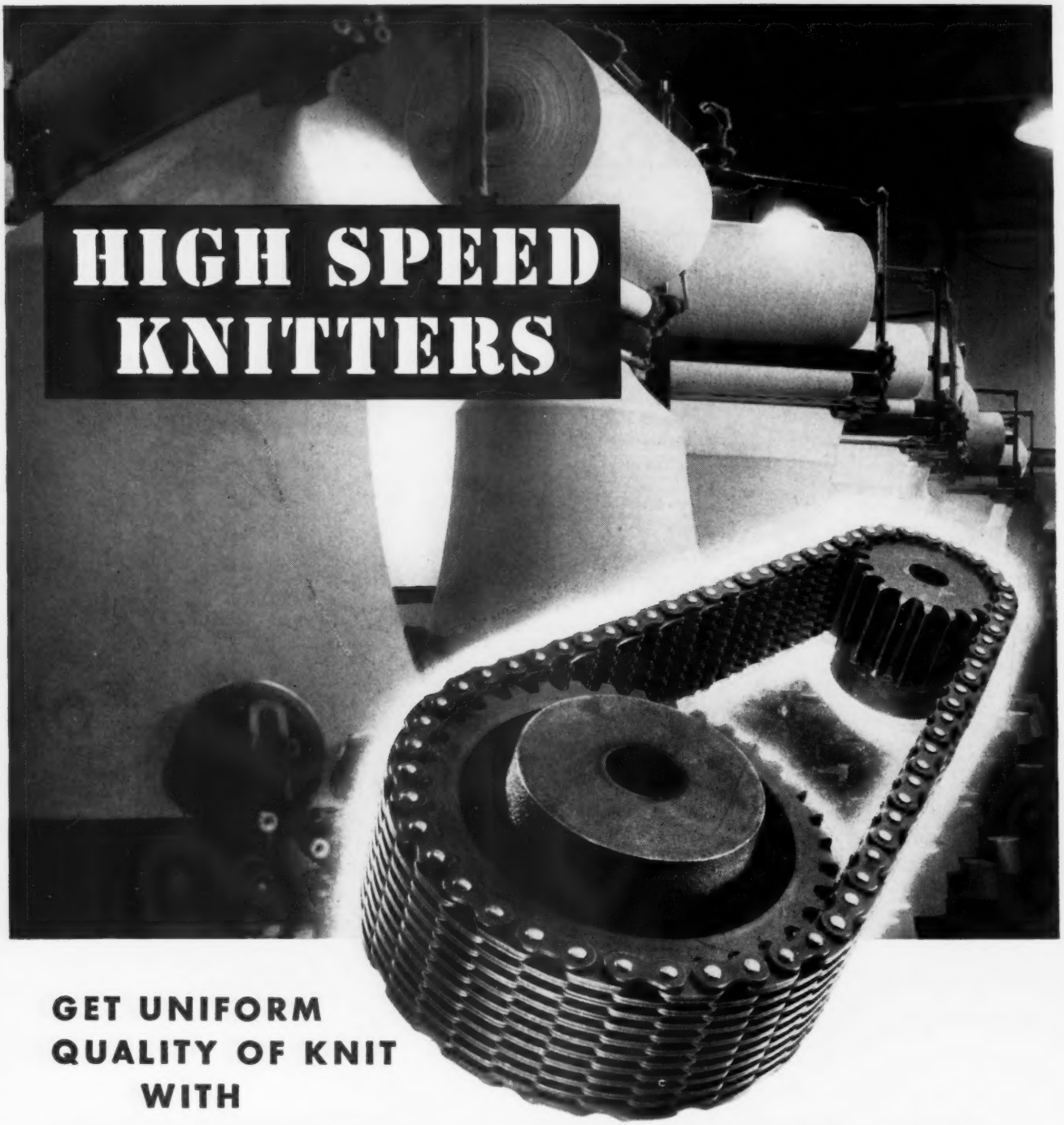
Sincerely,

Procter & Gamble

P.S. Proxol is made by the makers of Olate, the universal textile soap.

What is Proxol?

Proxol is a clear wool oil of exceptionally uniform quality, with a Saybolt Universal Viscosity of 450 seconds. Pour point less than 20 F. Self-emulsifiable. Emulsions are unusually stable and have extremely small particle size, assuring fast, even penetration and spreading. Excellent lubricating properties assure smooth, uniform card ropings. Anti-static — produces less than normal waste. Non-corrosive . . . assures longer life for card clothing . . . reduces stripping . . . helps produce stronger, more uniform yarns, better fabrics. Proxol means fewer ends down . . . more yarn per operator. Unusually resistant to oxidation. Proxols scours easily, assuring uniform bleaching, level dyeing . . . *with 40% to 75% reductions in normal soap and detergent usage.*



GET UNIFORM QUALITY OF KNIT WITH

WHITNEY SILENT CHAIN

Regardless of the type of knitting machines you manufacture or use, Whitney Silent Chains will help your equipment to maintain uniform quality of products by transmitting smooth, constant power.

The positive grip of Whitney Silent Chains delivers full power from driver to driven mechanisms. Because there is no slippage or friction loss, product uniformity is assured . . . rejects and "seconds" are reduced to a minimum. Whitney Silent Chains absorb shock loads without breakage . . . give long life with low maintenance.

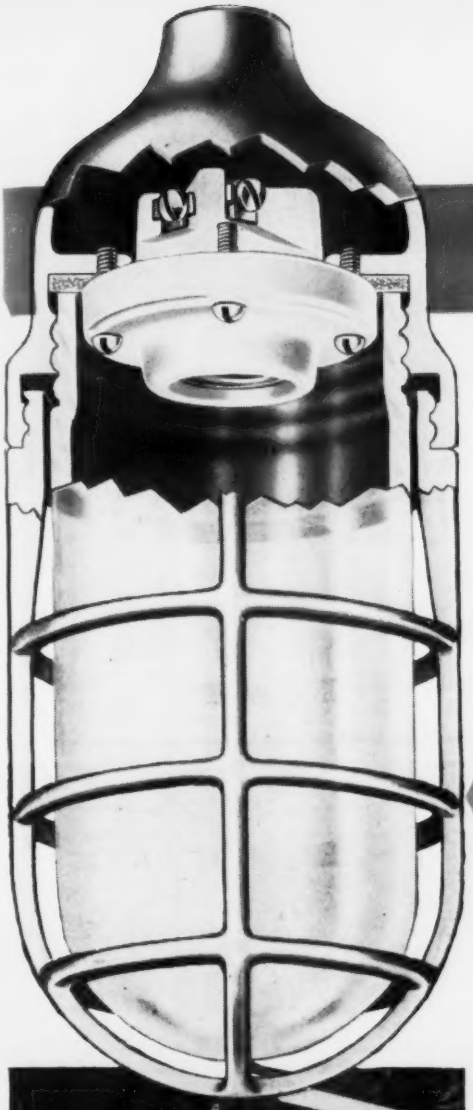
Whether you manufacture knitters, looms, cards, printers, or other textile machinery, it will pay you to use Whitney Silent Chains. If you are a user of textile equipment, replace old chains with Whitney Silent Chains and Cut Tooth Sprockets for dependability and performance. Write for information.

Whitney Chain & Mfg. Co. 211 Hamilton Street, Hartford, Conn.
Division of Whitney-Hanson Industries Inc.

Vaportight

Industrial Lighting

CONDULET*



For use in boiler rooms, powerhouses, shower rooms, tunnels, loading docks, building entrances, and all indoor and outdoor locations where exposed to moisture and rain, non-explosive vapors and gases, or non-combustible dusts.

Vaportight and raintight.

Wiring chamber remains vaportight even though globe is off.

Porcelain Receptacle.

Screw guard or clamp guard.

11 Hub arrangements.

4 Reflector styles.

Accessories: Colored globes, pear-shaped globes and guards, half shades, and adapters.

4 Sizes: 50 through 500-Watt.

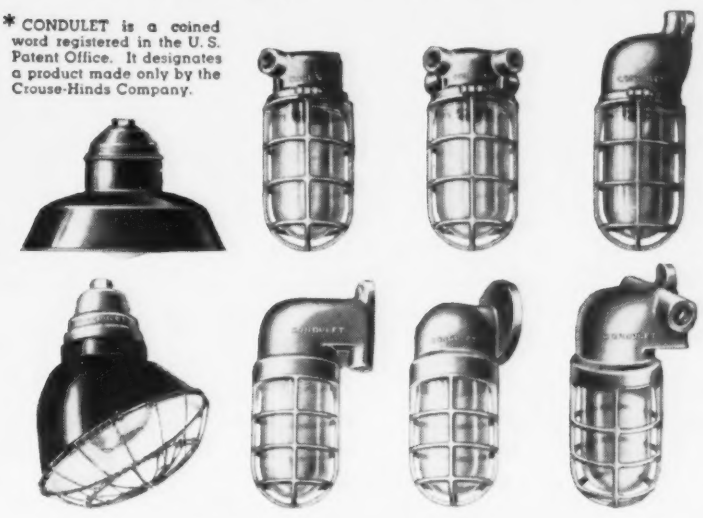
A Nationwide Distribution Through Electrical Wholesalers

CONDULETS
FLOODLIGHTS
TRAFFIC SIGNALS
AIRPORT LIGHTING

Vaportight **lighting fixtures are available for attaching to several round-base Condulets and sheet steel outlet boxes. Crouse-Hinds complete *Vaportight* line includes hand lamps, switches, plug receptacles, and other electrical devices.**

Complete listings in Section 25, Condulet Catalog 2500.

* CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

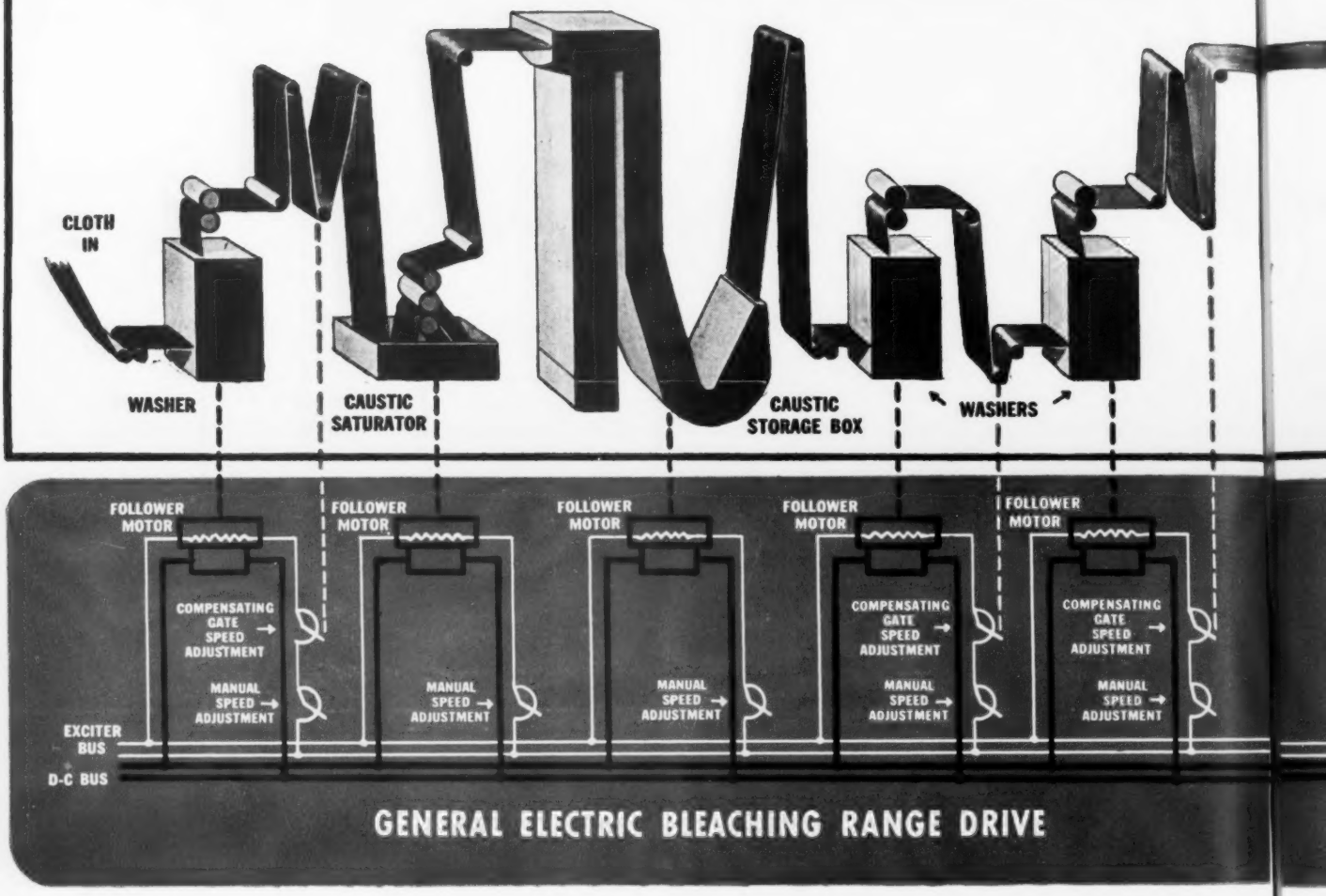


CROUSE-HINDS COMPANY

Syracuse 1, N. Y.

Offices: Birmingham – Boston – Buffalo – Chicago – Cincinnati – Cleveland – Dallas – Denver – Detroit Houston – Indianapolis – Kansas City – Los Angeles – Milwaukee – Minneapolis – New York Philadelphia – Pittsburgh – Portland, Ore. – San Francisco – Seattle – St. Louis – Washington.
Resident Representatives: Albany – Atlanta – Charlotte – New Orleans – Richmond, Va.
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

BLEACHING SPEEDS



When mills switch from the kier method of bleaching to an electrified continuous range, bleaching speeds can be boosted as high as 275 ypm — quality control is simplified — finishing costs come down!

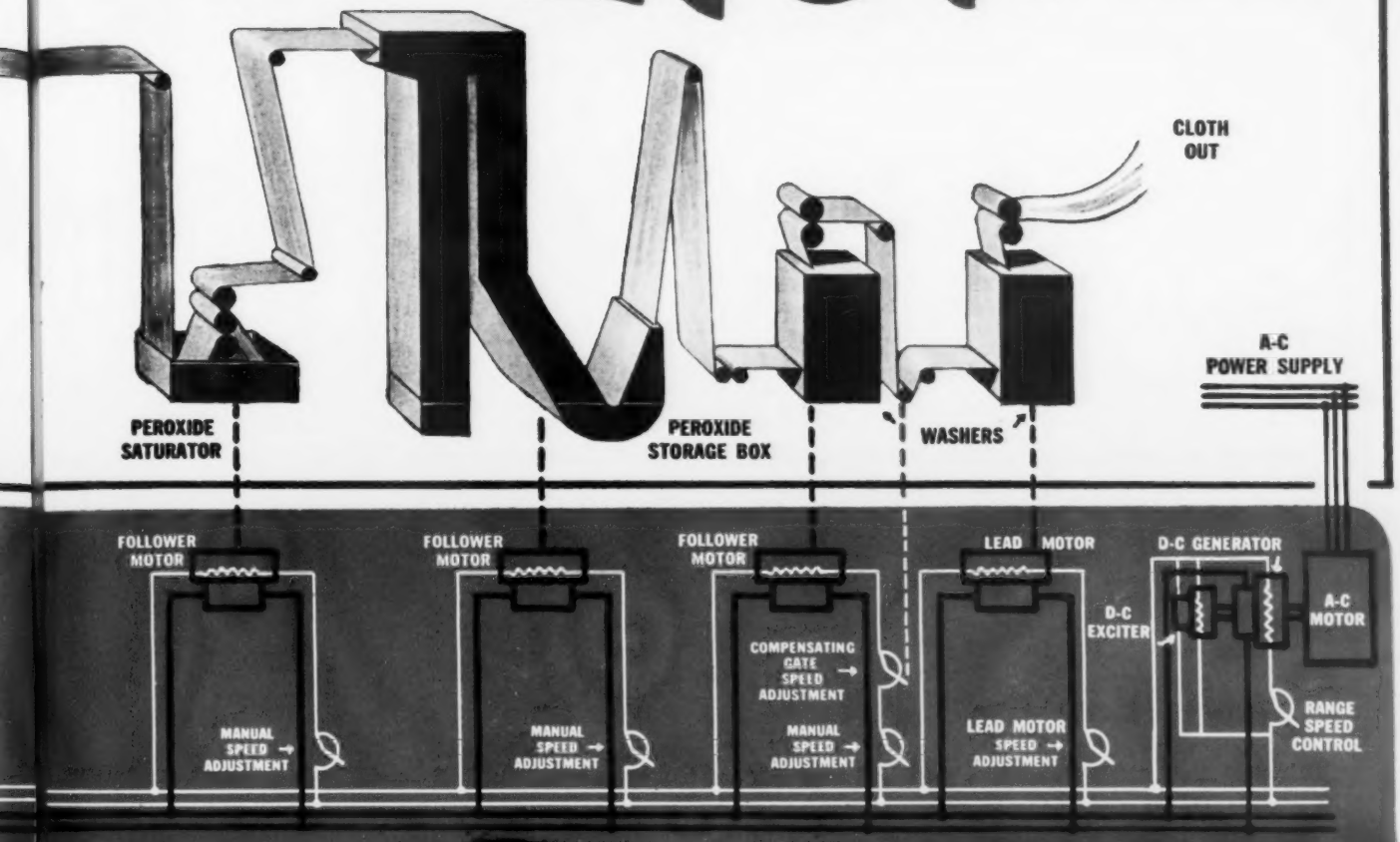
About 15 years ago, it became evident that the kier or batch method of bleaching could not be speeded up enough to meet the demands of modern high-speed textile finishing. The cost of handling cloth in batches was too high. Quality standards were difficult to maintain and serious limitations were placed on a bleaching department's capacity.

The answer was found in today's electrically-driven, high-speed continuous bleaching ranges. By handling cloth in one continuous length, "in-between" losses have been eliminated completely. Quality is high since each length of cloth receives identical treatment. Individual units in the range can be operated at maximum capacity; thus bleaching-department output is higher and finishing costs less.

For most range applications a G-E adjustable-voltage d-c drive as shown in the above diagram is most satisfactory. For applications where special conditions prevail, G.E. can supply other types of drives such as constant-voltage d-c, adjustable-speed a-c, and turbine-electric d-c.

Simple yet inexpensive, control of fabric tension or speed is accomplished with compensating gates, soft motors, or other co-ordinating devices such as photoelectric loops, speed regulators and current (tension) regulators. For full data on these drives, write for Bulletin GEA-5010. *Apparatus Dept., General Electric Company, Schenectady 5, New York.*

UP TO 275 YPM!



The essential equipment ... AND WHAT IT DOES

The diagram above shows symbolically a G-E adjustable-voltage d-c range drive with a compensating gate co-ordinating system. A single motor-generator set energizes a common d-c circuit which supplies armature voltage to all the range motors. The voltage of this circuit (and thus the speeds of the connected motors) is adjusted by a common generator-field rheostat. Excitation for the generator and the range motors is supplied from a common constant-voltage exciter. Close tension or speed control between units (where needed) is obtained through shunt-field control of the individual motors by the compensating gate rheostats.

G-E electric drives permit compact arrangement of textile finishing range equipment.

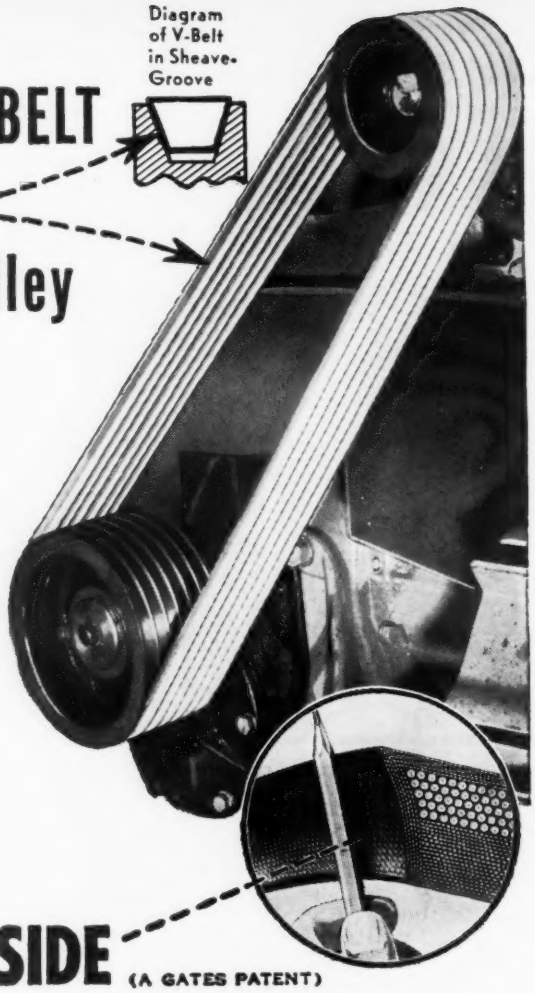
DRIVE SYSTEMS FOR TEXTILE MILLS

GENERAL ELECTRIC

661-28

The SIDE of a V-BELT is what GRIPS the pulley

Diagram of V-Belt in Sheave-Groove



Naturally, it GETS the WEAR!

Any one familiar with V-Belt drives knows that the sides of a V-Belt are what really get the wear.

It's the *sides* that grip the pulley. They *pick up* all the power from the driver pulley, *transmit* that power to the belt as a whole and then, once more, they *deliver* the power to the driven pulley. And, clearly, it's the *sides*—and *only* the sides—that take the wear against the sheave-groove wall.

That is why you have always noticed that the *sidewall* of the *ordinary* V-Belt is the part that *wears out first*—and, naturally, if you prolong the life of the sidewall, you *lengthen* the *life* of the *belt!*

Now See How the CONCAVE SIDE (A GATES PATENT) SAVES Sidewall Wear and Lengthens Belt Life!

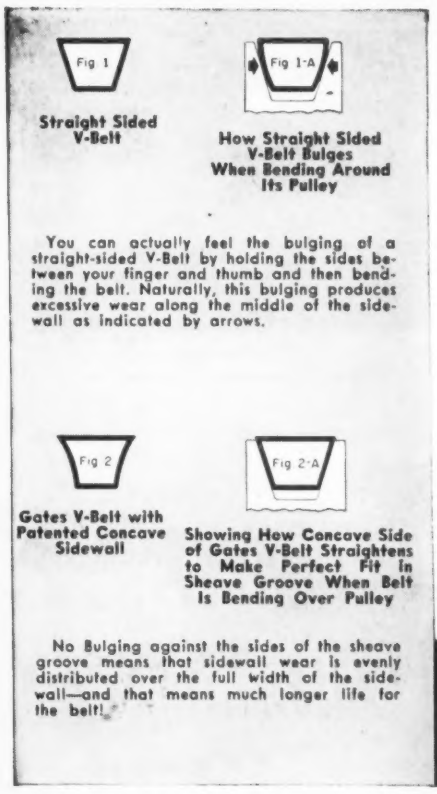


Fig 1
Straight Sided V-Belt
Fig 1-A
How Straight Sided V-Belt Bulges When Bending Around Its Pulley
You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.
Fig 2
Gates V-Belt with Patented Concave Sidewall
Fig 2-A
Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley
No Bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

The simple diagrams on the left show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the *middle* of the sides. The diagrams show also why the Patented Concave Side greatly *lengthens the life* of the *sidewalls* of Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belt can possibly give.

Saving SIDEWALL WEAR is more important NOW than ever before. ..

Now that Gates *SPECIALIZED* Research has resulted in Super Vulco Ropes capable of carrying much heavier loads—fully 40% higher horsepower ratings—the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important now than ever before!

Gates

THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY *Denver, U. S. A.*

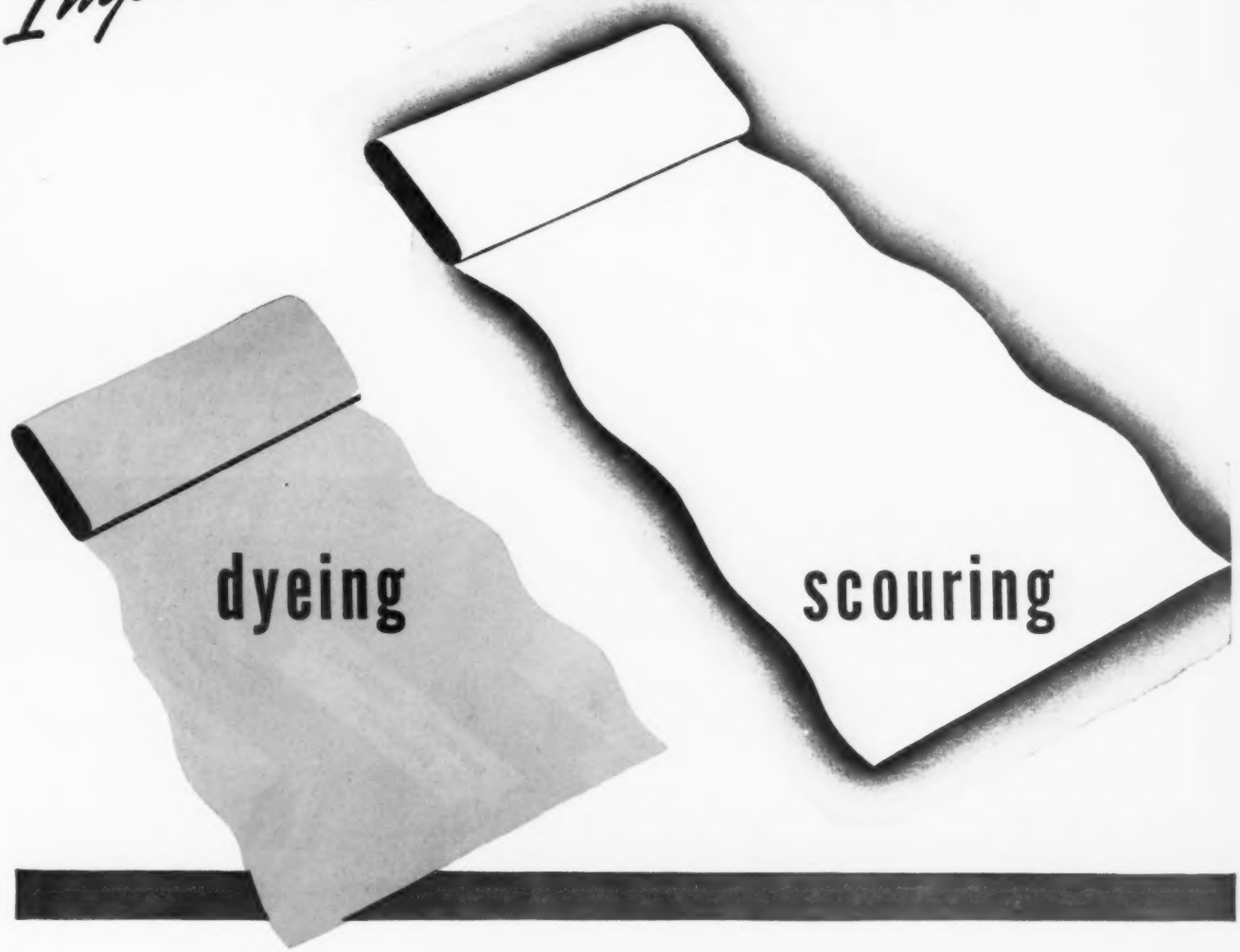
"The World's Largest Makers of V-Belts"

487

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Improved SANTOMERSE No. 1



Improved Santomerse No. 1 is the *economical* detergent and wetting agent for use in textile operations. Not only does Santomerse No. 1 combine thorough penetration, wetting out and scouring properties, but it performs *all three* functions efficiently *at low concentrations.*

Santomerse No. 1 has valuable applications at many points in the dyeing and scouring of cotton, linen, wool, rayon, silk and nylon.

For detailed information on profitable uses of Santomerse No. 1 in the textile industry, write for a copy of Monsanto Application Data Bulletin No. P-118... or ask for it on the handy coupon. MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri. *Santomerse: Reg. U. S. Pat. Off.*

DISTRICT SALES OFFICES: New York, Philadelphia, Chicago, Boston, Detroit, Cleveland, Cincinnati, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Portland. In Canada: Monsanto (Canada) Limited, Montreal.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY TWP-4
Phosphate Division
1700 South Second Street, St. Louis 4, Missouri

Please send me Application Data Bulletin No. P-118.

Name_____ Title_____

Company_____

Address_____

City_____ State_____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

INVISIBLE SECURITY...

Results you can SEE!

Do you need *controlled humidity* . . .

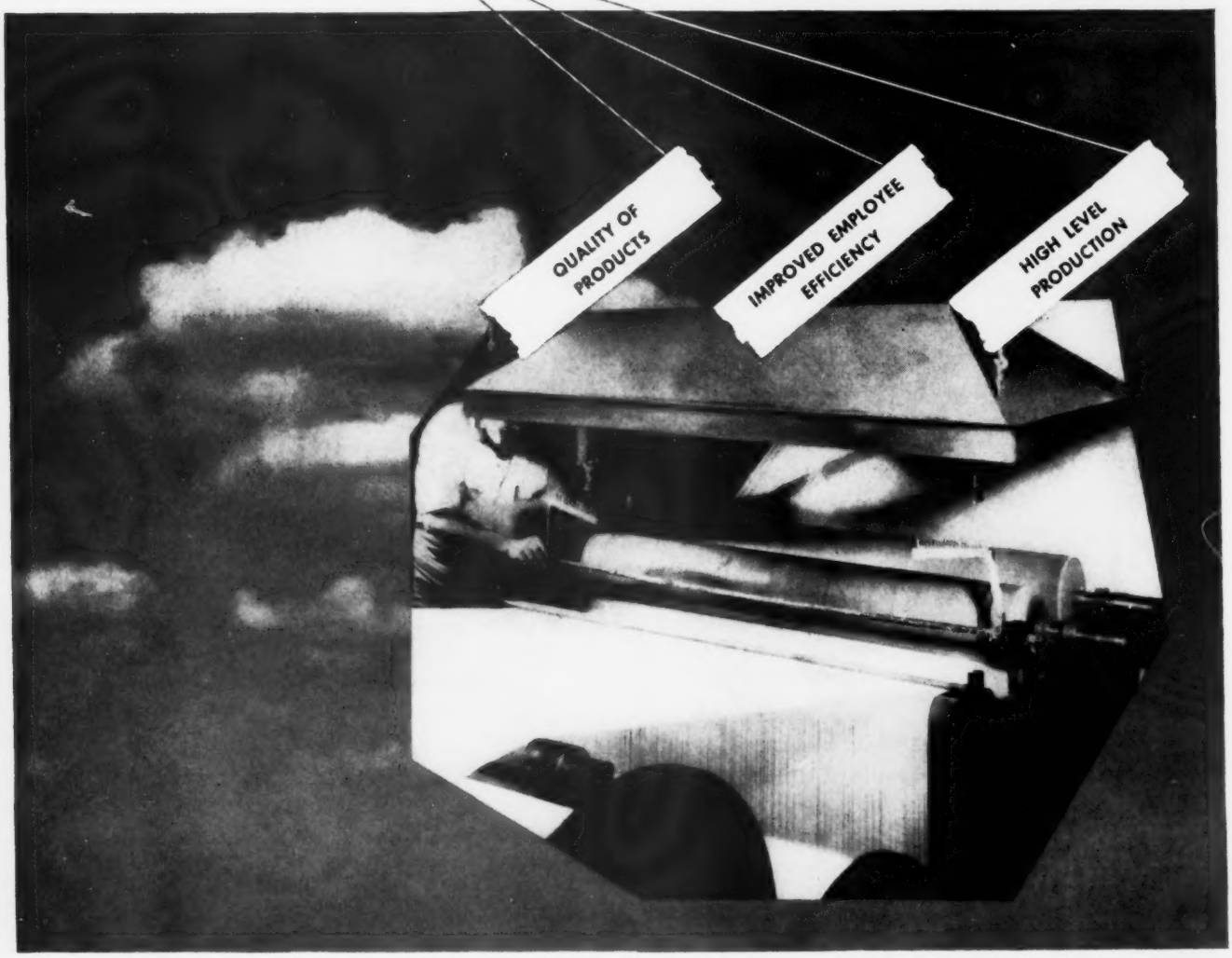
to improve quality of work?
to maintain uniformity?
to reduce static and fly?
to maintain plasticity of size?
to improve loom operations?
to hold filament strength and dimension?

and controlled temperature . . .

to maintain machine adjustments?
to hold machine tolerances?
to give uniformity in knitting operations?
for spot cooling in bleaching and finishing?
to provide employee comfort and health?

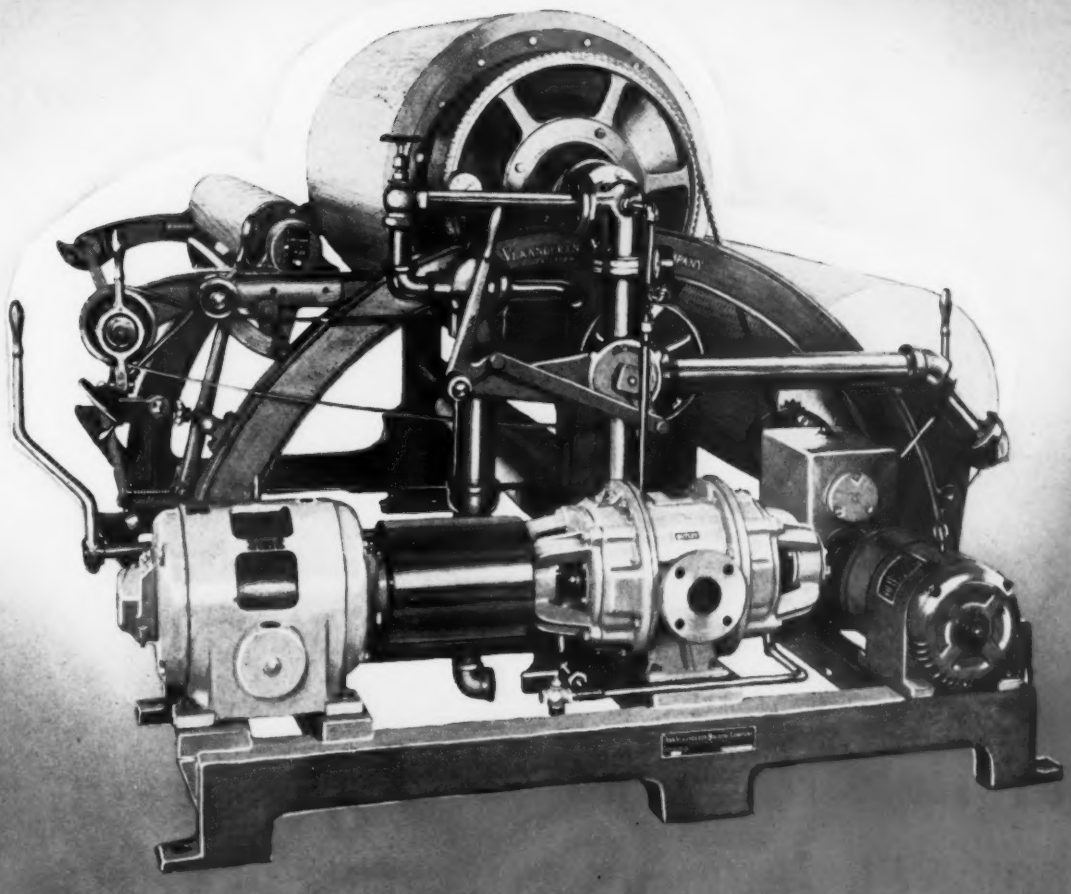
These benefits and many more are the visible and tangible results that air conditioning with York can bring to your mill operations. York central station systems will give you accurate control over temperature and humidity . . . operate at a minimum of cost and attention.

And, whatever your specific needs in air conditioning, there's a complete range of York equipment to meet them, and a York representative ready to talk textile installations. He is prepared to supply your plant engineer, consulting engineer and installing contractor with specific information as to equipment—its capacities and performance to fit your special needs. His accumulated data on air conditioning in your particular field will be helpful. York Corporation, York, Pennsylvania.



YORK *Refrigeration and Air Conditioning*

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885



DECATE MODERN FABRICS

TO CORRECT HARSH HANDLE, BREAKS, EXCESSIVE LUSTRE AND CLOUDY OR BLOTCHY DYEING

The conditioning machine shown above is well known to the trade. In many plants it has, for over ten years, been depended on to give that finishing touch to viscose and acetate rayon as well as to other fine fabrics, at a cost so low per yard that it need scarce be considered.

From time to time during the last few years we have made improvements to permit better production. For instance: faster take out speed, faster pick up speed and quicker brake action, faster removal of condensation and faster unloading speed.

The many new fabrics of man-made yarns that are now becoming available will also be greatly improved by decating. We will send, on request, an eight-page book giving decating information and a full description of the Van Vlaanderen Decater.

BETTER DECATER BLANKETS

Immediate Delivery

New improved superior double face sateen blankets now stocked in 52", 56", and 72" widths and lengths from 400 to 1000 yards.

Now used on hundreds of decaters, this blanket gives longer service, better quality work and better production.

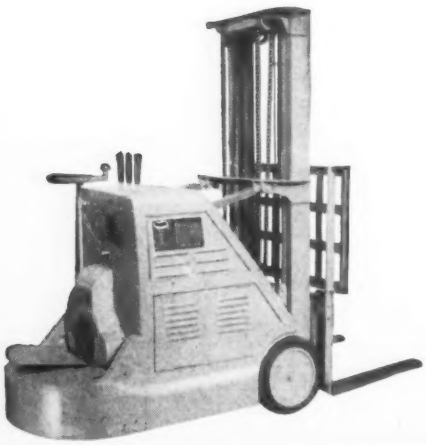
Send for a sample of this blanket. Telephone, telegraph or write now.

VAN VLAANDEREN MACHINE CO.

370 STRAIGHT STREET **PATERSON, NEW JERSEY**

World's largest manufacturer of machinery for processing modern fabrics

Materials Handling Costs *Take a Fall* when you team up with MOBILIFT!



You can bring handling costs down where they belong! It's a simple matter with MOBILIFT **(*affectionately* called the "Mighty Midget" by thousands of users).**

MOBILIFT eliminates costly re-handling. It loads, lifts, transports, and stacks in one continuous motion—and does it faster than any other lift truck. The basic reason for MOBILIFT's speed is its patented clutch which eliminates all gear shifting. This factor alone means easier operation, less space required and more trips per hour.

Let a MOBILIFT specialist show you how you can cut your materials handling costs with the "Mighty Midget." Mail the coupon today!

MOBILIFT CORPORATION T4
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Please send me your illustrated folder on Mobilift operation.

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Firm_____

Address_____

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MOBILIFT
"The MIGHTY MIDGET"

DU PONT FIRE RETARDANTS offer all these advantages

Du Pont Fire Retardants do not stiffen or in any way affect the "hand" of fabrics. Yet, they provide effective flameproofing for most materials; such as cotton, viscose, rayon and many others . . . with absence of after-glow.

Furthermore, Du Pont Fire Retardants do not "bloom," or effloresce to the surface . . . even after aging under adverse conditions. And they can be easily and uniformly applied by an immersion or spray treatment.

ADDITIONAL ADVANTAGES

Resist dry cleaning: Du Pont Fire Retardants are not removed by ordinary dry cleaning solvents. Nor do they adversely affect the strength of treated fabric.

Low-cost: Du Pont Fire Retardants are inexpensive . . . yet give added sales value to your finished materials.

Choose the proper Du Pont Fire Retardant for your fabric. For further information, write the Du Pont Company, Grasselli Chemicals Dept., Wilmington 98, Del.

DU PONT
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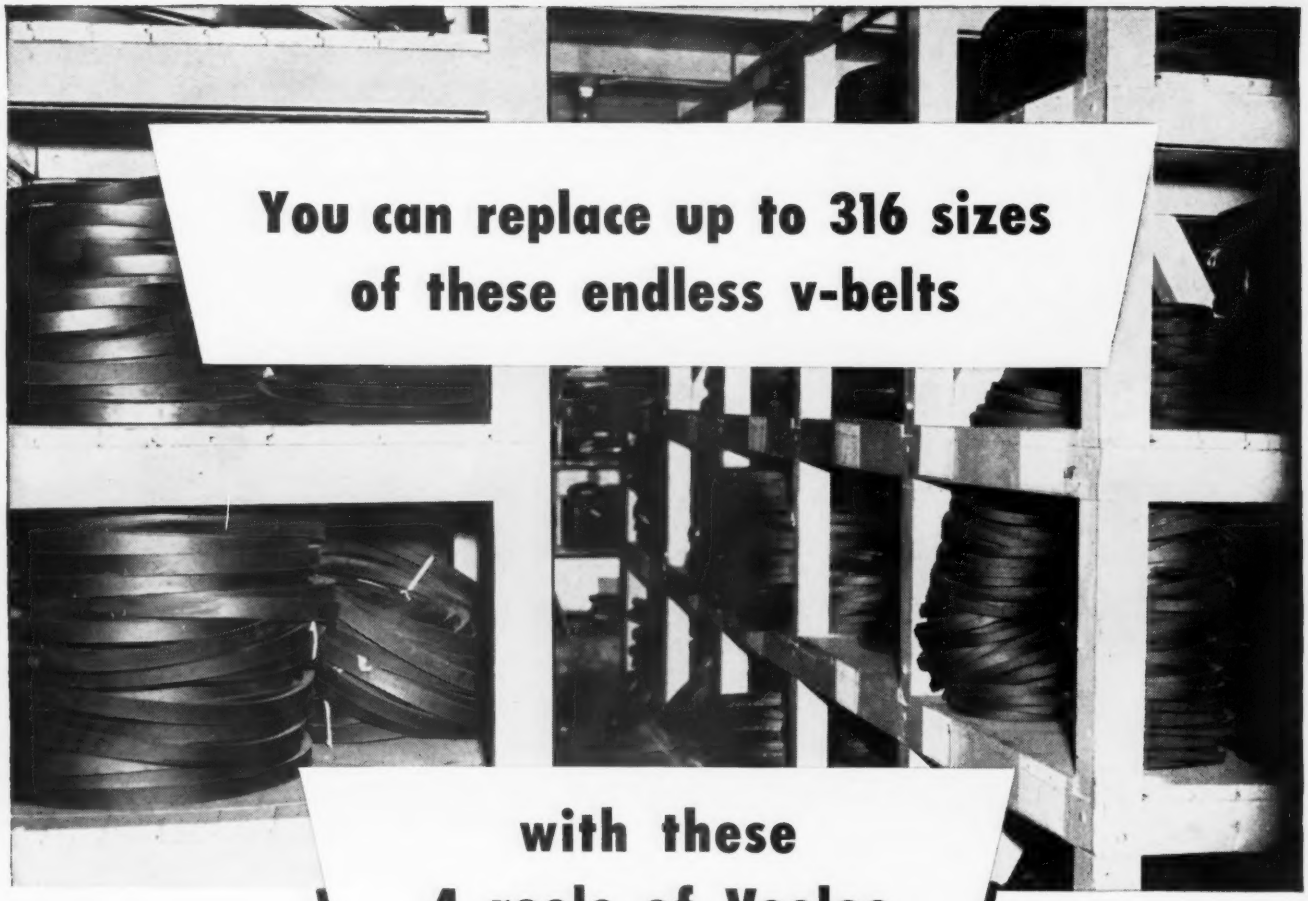
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. DU PONT DE NEMOURS & CO. (INC.), GRASSELLI CHEMICALS DEPARTMENT
Wilmington 98, Delaware



You can replace up to 316 sizes of these endless v-belts

with these 4 reels of Veelos

Just four reels of Veelos in your stockroom give you replacements for as many as 316 sizes of endless V-belts. Very likely you require less. One reel may give you a complete V-belt inventory. With Veelos, the link V-belt, any length belt is quickly uncoupled, made endless and installed. Belt replacements for any type drive are always immediately available. Standard reels hold 100 feet, save storage space.

Ease of installing Veelos provides substantial savings in installation time. On drives with fixed centers, it is installed without moving the motor or dismantling the machine.

Veelos is available in all standard sizes . . . fits all standard grooves. Sales engineers in principal cities; 350 Veelos distributors throughout the country.

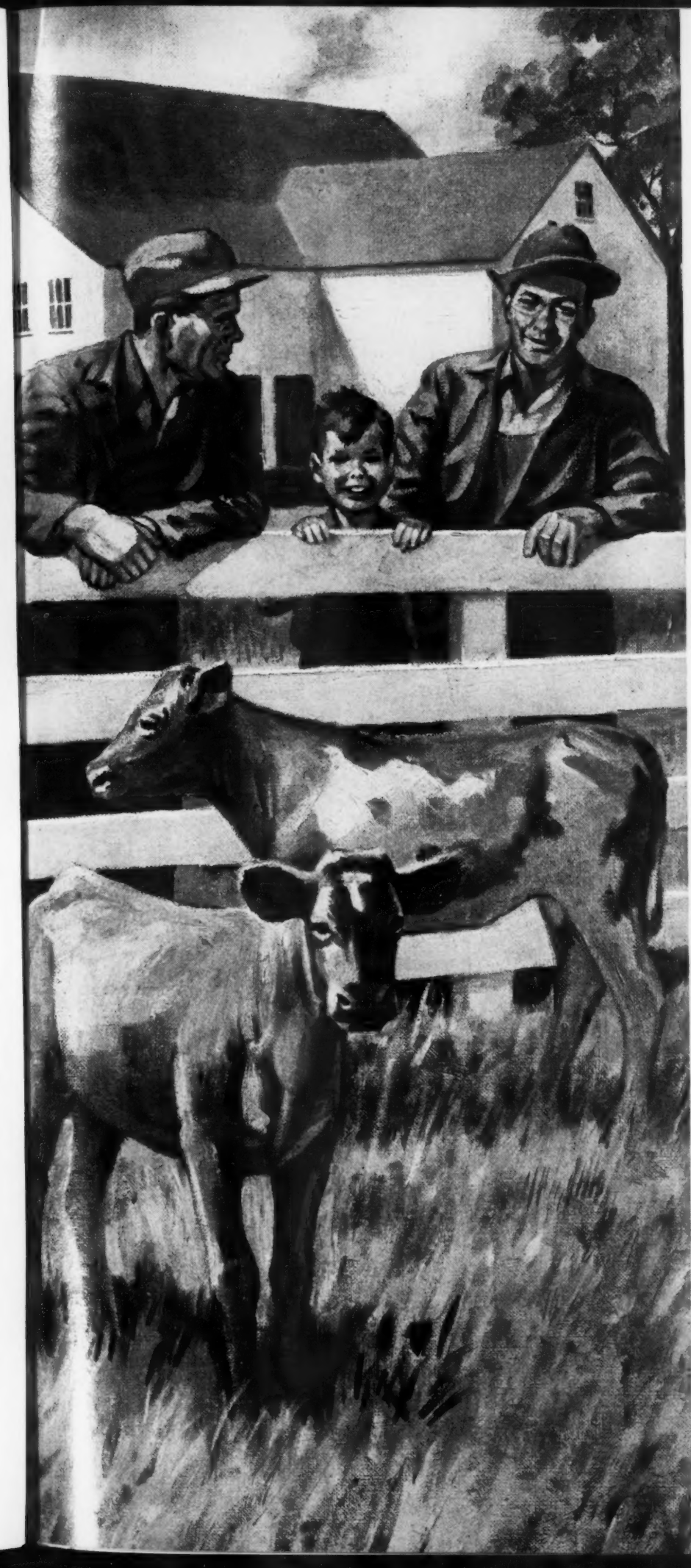
VEELOS
THE LINK
V-BELT

NEW CATALOG gives you all the facts about the important advantages of Veelos and supplies complete engineering data. Fully illustrated, it shows Veelos at work in industry after industry. Your copy sent on request.

MANHEIM MANUFACTURING & BELTING COMPANY
MANHEIM, PENNSYLVANIA

VEELOS is known as VEELINK outside of the United States

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE



Farmer Brown's New Tractor Has Four Legs Today

Farmer Brown laughed when he told me about it, but he was deadly serious.

"See that little brown calf—that's my new tractor. See the little brown and white one—she doesn't look much like a new motor for the milking machine, but she is."

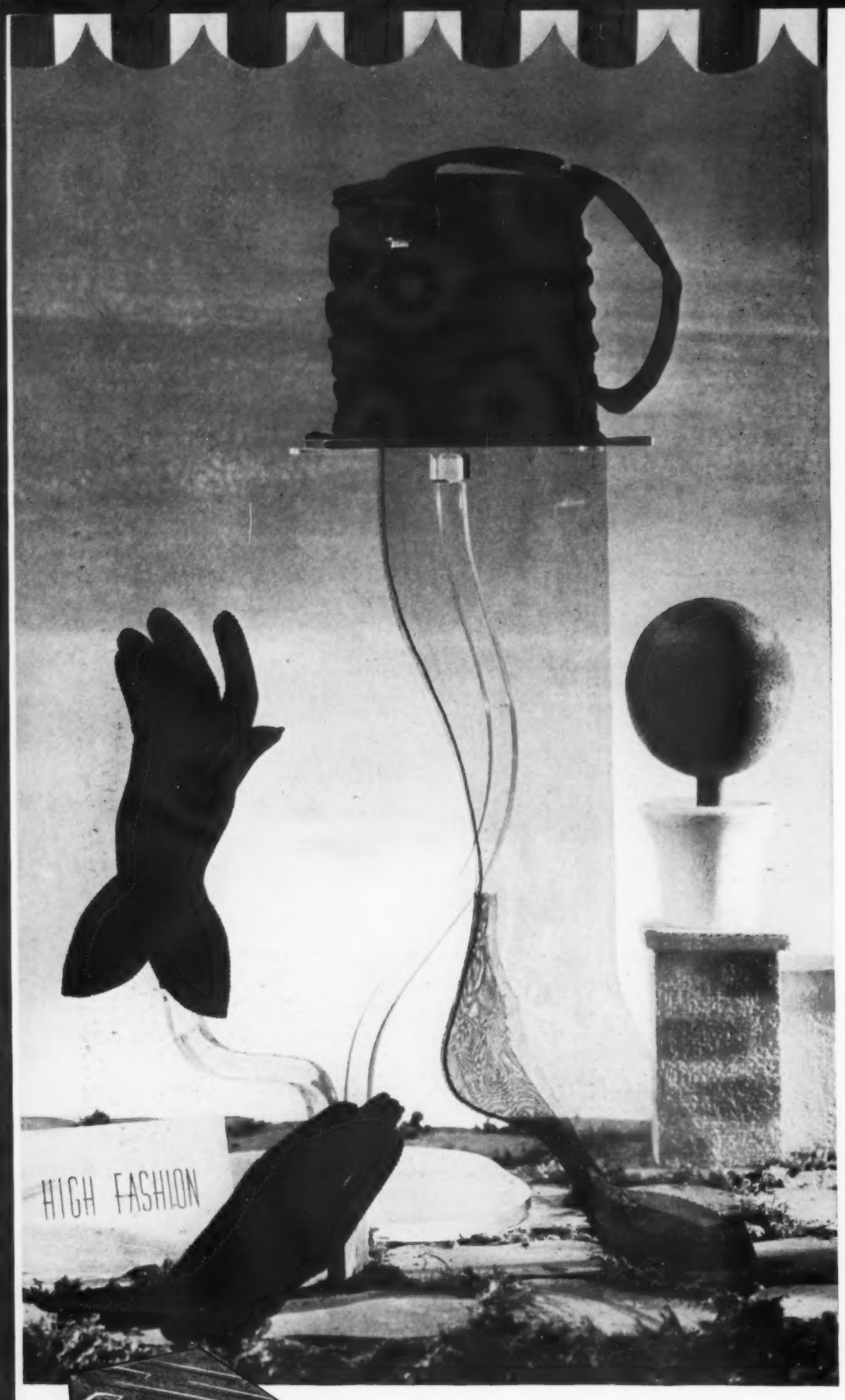
Farmer Brown doesn't have a special bank account for replacements—just special cows or heifers to sell. He figures certain animals or maybe a number of calves to take care of the depreciation he sees going on all the time.

One of the nice things about Farmer Brown's system is this—animals set aside for depreciation can often be increased in value while waiting to be used. And the depreciation "reserve" is always available when he needs it.

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

Write today on your business stationery for your copy of "Good Housekeeping in Business"—a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.



For extra strength

Strong at the beard . . . strong at the butt . . . strong at *every* point.

The superior strength of Textile Spring-Beard Needles is a result of a special steel formula and the most exacting controls at every manufacturing step.

Superior strength is just one of the advantages you get from Textile's quality controls—automatic controls, electronic controls, controls that do not relax until the needles are in position in your knitting bar.

TEXTILE MACHINE WORKS
Reading, Penna.

Textile
SPRING-BEARD NEEDLES
For Full Fashioned and Warp Knitting

There are hundreds of Bunting Stock-carrying Distributors each with an adequate stock of Bunting Bronze Bars and Bearings. Your Bunting Distributor can deliver—now —from his stock. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in Principal Cities.
Bunting
BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

Easier . . . Faster . . . Smoother Piping Jobs when CRANE-equipped throughout

For power, heating or process piping . . . whatever you need, Crane is the dependable source. Buying from the world's most complete line means delivery of what you want . . . valves, fittings, pipe, accessories, fabricated piping . . . in brass, iron, steel or alloys.

Standardize on Crane and you establish a single responsibility for piping equipment. Every step of piping procedure is simplified . . . specifying, buying, installing; including maintenance work. And you're assured good performance, because dependable Crane quality guards every part of piping systems.

Pick up your Crane Catalog and the complete Crane line becomes your partner . . . working for you.

Crane Co., 836 S. Michigan Ave.,
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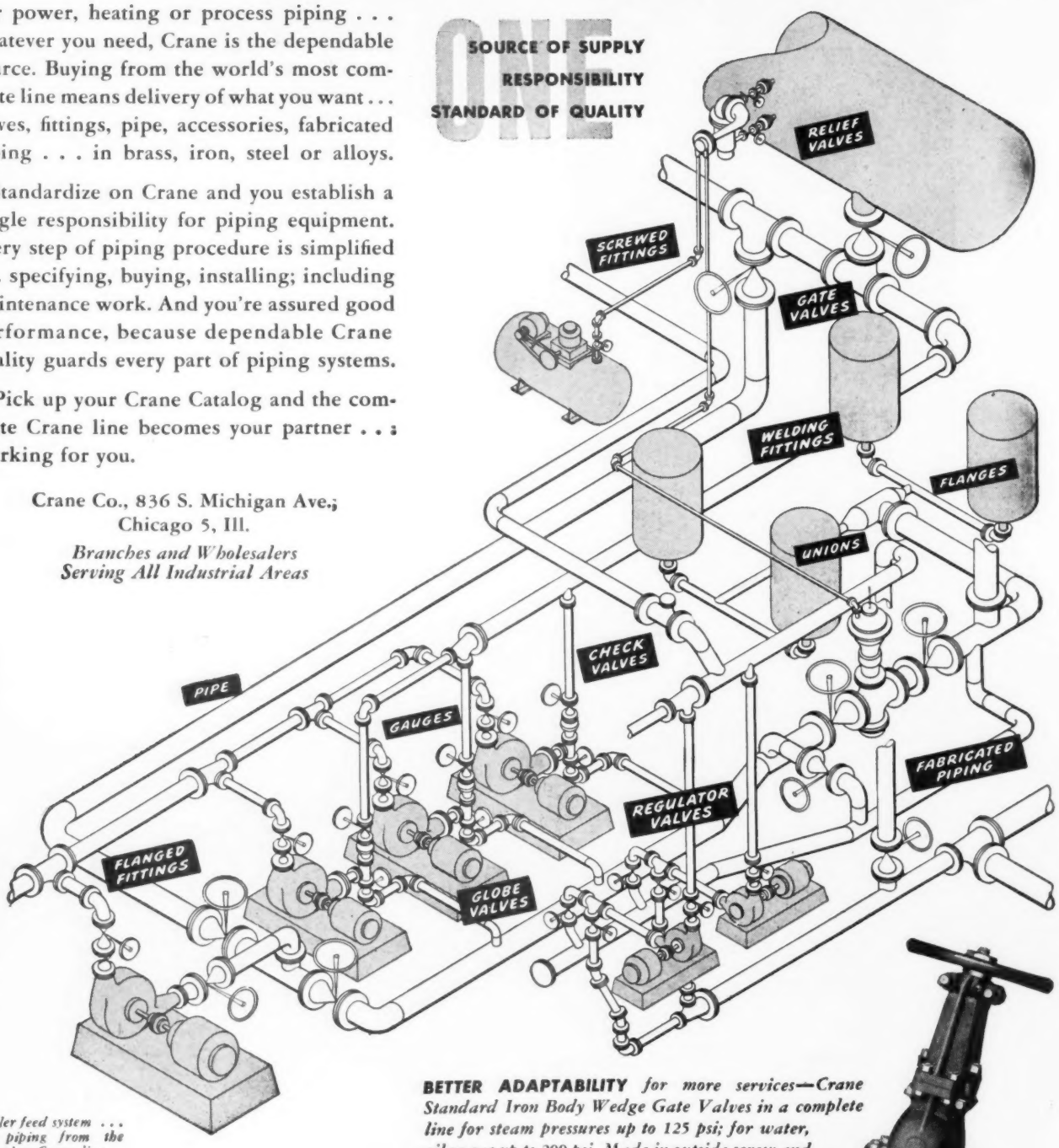
Serving All Industrial Areas



Boiler feed system . . . all piping from the complete Crane line.

BETTER ADAPTABILITY *for more services—Crane Standard Iron Body Wedge Gate Valves in a complete line for steam pressures up to 125 psi; for water, oil or gas up to 200 psi. Made in outside screw and yoke, and non-rising stem patterns; screwed or flanged ends; brass-trimmed or all-iron. In sizes 2 in. and larger. See your Crane Catalog, pp 101-6.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

LINK-BELT—A GOOD NAME ON BALL AND ROLLER BEARINGS

A *good name* is one of man's proudest possessions. A *good name* is also a manufacturer's requisite to stay in business.

For three-quarters of a century, the name "LINK-BELT" has warranted the respect of industry. When you see that name on bearings, you can be sure that the quality is RIGHT. And once you use Link-Belt Bearings, you'll add *your good name* to the names of others who agree that Link-Belt is definitely a *good name* on ball and roller bearings.

LINK-BELT COMPANY

Indianapolis 6, Chicago 9, Philadelphia 40, Pittsburgh 19, Atlanta, Dallas, Cleveland 13, Minneapolis 5, San Francisco 24, Houston 2, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities

TX101

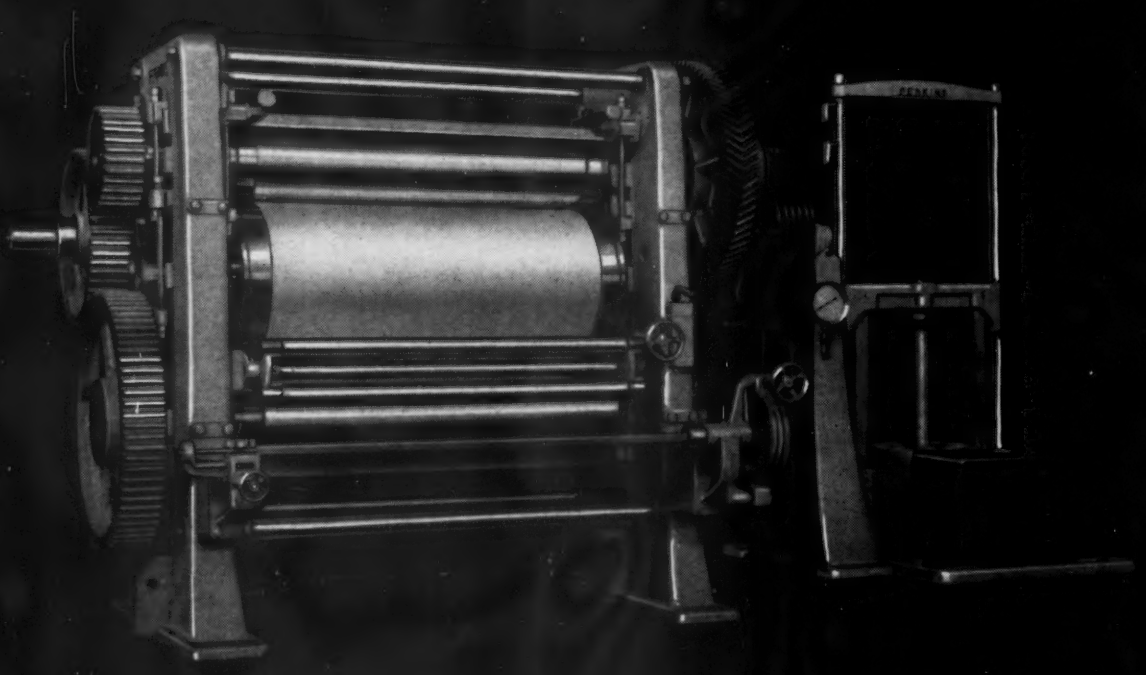
Long life
Inbuilt alignment
Neat appearance
Keen craftsmanship
–
Best performance
Efficient operation
Low cost
Time-tested

THE SYMBOL OF QUALITY · LINK-BELT · LB

Send for Catalogs

A COMPLETE LINE OF MOUNTED AND UNMOUNTED BALL AND ROLLER BEARINGS

LINK-BELT BALL AND ROLLER BEARINGS



Perkins 54″ three-roll hydraulic friction calender . . . thirty-five tons pressure . . . Sykes herringbone drive gears . . . cut spur friction gears . . . bronze bearings. Top, chilled iron roll, 12″ diameter . . . intermediate cotton roll, 22″ diameter . . . bottom, iron roll, 18″ diameter.

Perkins Hydraulic Power Unit . . . a high power unit which combines efficiency with quiet operation. Note the enclosed type housing for maximum safety and appearance.

DIAMOND JUBILEE
PERKINS HOLYOKE
1873-1948

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Never omit the "Composite Valve"

— in any cost-wise planning

CALL IT THE "COMPOSITE VALVE"—the giant that would result if *all* the valves in a plant were *one* valve. As pictured here, its proportion to other equipment in this detailed model of an automobile factory is fairly accurate. Representing your total valve investment, its size may surprise you, but it must be considered in any plan for economical plant operation.

IT PAYS to keep *your* "composite valve" in mind at all times . . . and thus avoid the common error of dismissing valves as a comparatively unimportant investment. With wages and material costs the highest ever, your total valve expense warrants the same careful attention that you give to operating costs of larger plant units.

EXCESSIVE MAINTENANCE of one inferior valve is insignificant, but multiplied by thousands, it is a serious drain on operating budgets. JENKINS BROS. helps you meet this problem two ways. First, by building extra endurance into Jenkins Valves, making them the longest-lasting, lowest-upkeep valves that money can buy. Second, with advice from Jenkins Engineers on any question of proper selection, installation, or maintenance.

For all new installations, for all replacements, rely on Jenkins quality and engineering for lowest valve costs in the long run. Sold through leading Industrial Distributors.

•

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

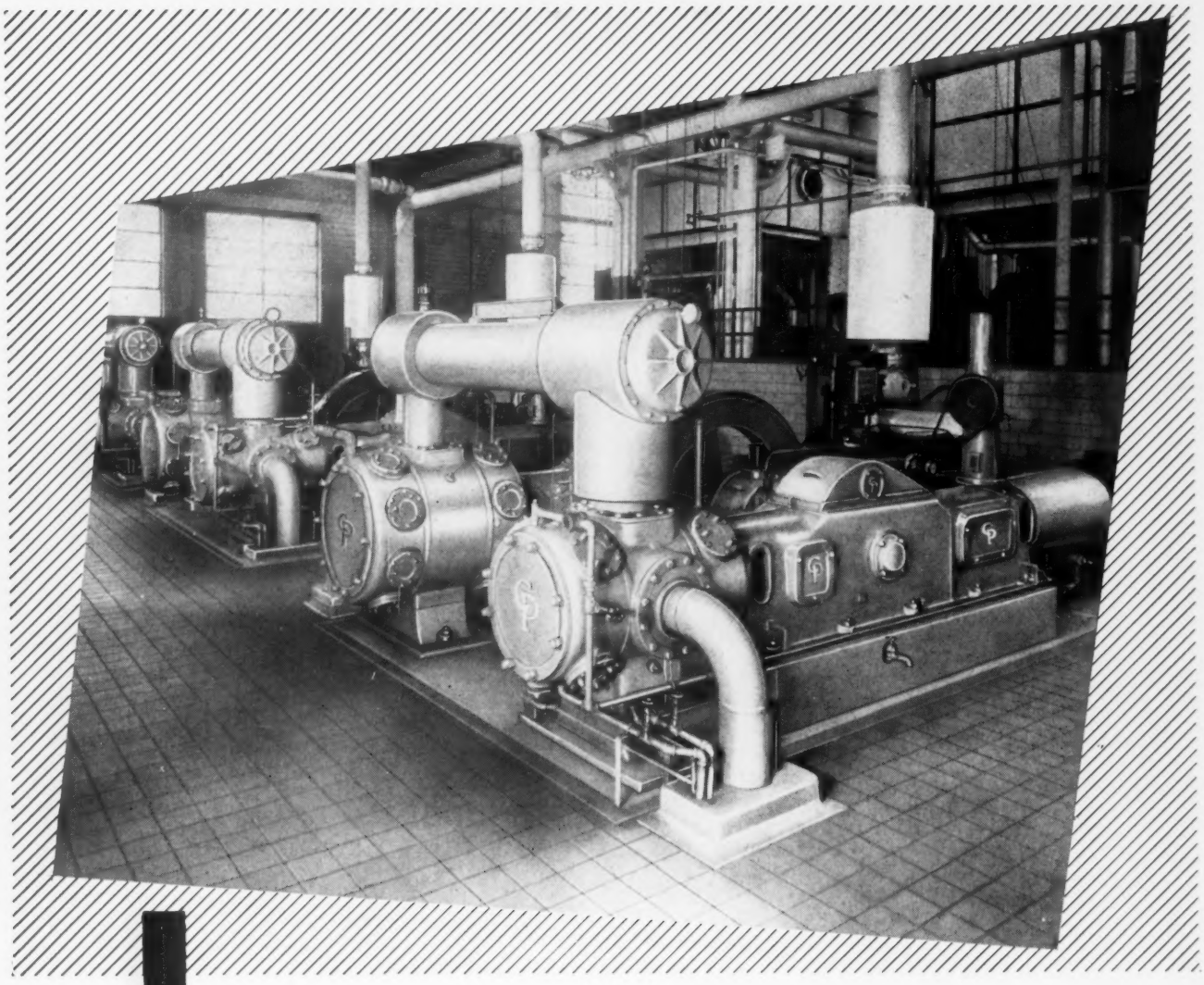
"PRACTICAL PIPING LAYOUTS" is a 32-page book containing diagrams and descriptions of 25 basic piping layouts with complete recommendations for valve selection and location in the lines. Tells you "which valve where for best performance". FREE on request. Write JENKINS BROS., 80 White Street, New York 13, N. Y.

LOOK FOR THIS JENKINS TRADE MARK DIAMOND MARK

SINCE Jenkins Bros. 1864

JENKINS VALVES

Types, Sizes, Pressures, Metals for Every Need



Where Steam is Available . . . Type H Compressors

Where plant conditions favor steam drive, air demands can be met most efficiently with Chicago Pneumatic Type H Steam-Driven Compressors.

An economical steam end proportioned to user's steam conditions . . . automatic cut-off governor . . . and an efficient air end with Simplate Valves, and force feed lubrication throughout insure reliability and economy over a wide range of operating conditions.

Capacities range from 900 to 6600 c.f.m., 100 to 125 pounds pressure. Other sizes of CP Steam Driven Compressors are available in single and multi-stage design for lower and higher pressures.

Write for illustrated Bulletin 729.

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

ELECTRIC TOOLS • PNEUMATIC TOOLS • AIR COMPRESSORS • ROCK DRILLS
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H&D BOXES

DEVELOPED for safety

DESIGNED for savings

Fine glassware finds a solution to its packaging problems in this H & D box—the original corrugated octagon "barrel" for bulk glassware shipments. Here, Package Engineering cuts packing material costs and reduces packing time. Color printing provides high advertising value, quick product identity and a quality impression. The box offers dependable protection from the manufacturer to the retailer. Consult the H & D Package Laboratory on ALL of your packaging problems.

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MONTREAL, QUEBEC • RICHMOND 12, VA. • ST. LOUIS 15, MO.
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H&D

YOU'LL SPIN *more uniform yarn* AT LESS COST WITH *Dayco* WORSTED COTS

Specially designed and built for their specific job, *Daycos* can't be beat to run all combinations of wool, rayon or mohair mixtures with less matching-up and fewer ends down. Production records from mill after mill prove *Dayco*-equipped frames consistently deliver the most uniform yarn at the lowest cost. Manufactured without laps or splices, *Daycos* are not affected by oils, greases, temperature changes or hard ends. They won't groove, chip or scuff; they keep maintenance costs at rock bottom and cot replacement costs to an absolute minimum. After years of service—*Daycos outlast ordinary cots 12 to 1*—they retain their original co-efficient of friction and resiliency and show no signs of grooving or other deterioration. A trial installation will convince you *Daycos* are your answer to lowest production costs and highest spinning room efficiencies. It will pay you to write today to *The Dayton Rubber Company, Textile Division, Woodside Building, Greenville, S. C.*

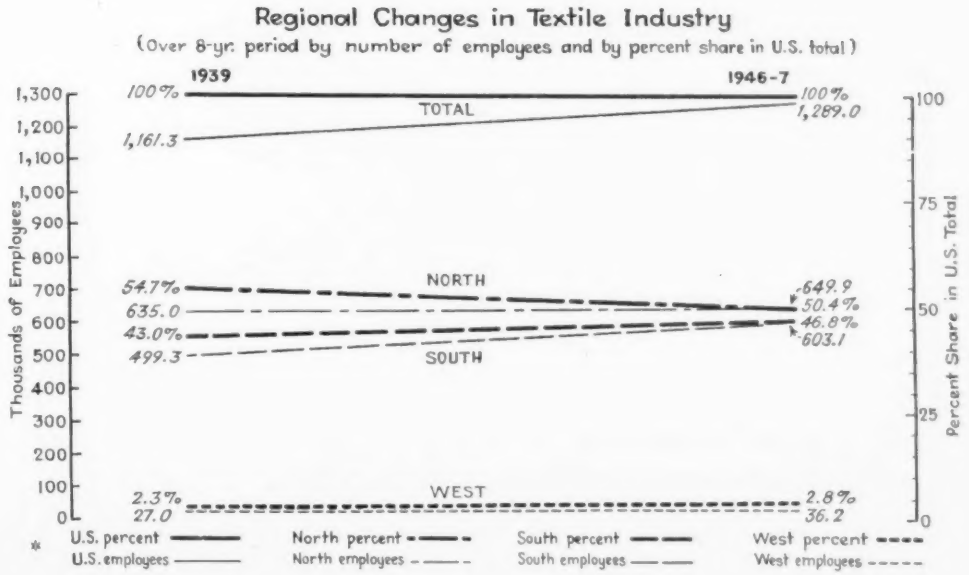
Dayco Woolen & Worsted Cots are available in a variety of sizes, or they can be "tailored" to meet your specifications.

REASONS Dayco COTS SAVE TIME, MONEY AND LABOR

- Reduce matching-up by getting more uniformity in production.
- Increase cot life from as little as 60 to 90 days to estimated life of 10 to 15 years—based on years of field tests.
- Eliminate wasted time and labor in removing and resetting the pressure on rolls after shutdowns.
- As much as 66% savings in labor and time applying cots to arbors.
- Save valuable time for the spinning frame mechanics—as replacement of rolls on frames are reduced to the absolute minimum.
- Greatly reduce power consumption on spinning and drawing frames.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER



TEXTILE MIGRATION Continues

But With Glacial Slowness

HIGHLIGHTS: *Since 1939, South added 3.8% to its share of textile employment—West added 0.5%—North lost the equivalent (4.3%) but still has 50.4% of entire industry—Some other American industries show similar shifts—Established areas retain sales functions and management headquarters with scant change.*

By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

HASTY OR EMOTIONAL conclusions on the subject of migration of industry are likely to be wrong. Such changes are often magnified or undervalued in the popular mind. Although industrial migration is a constantly active force, recent factual studies show that, even under pressure of wartime necessities, it is drift rather than shift. Annual movement of late has been registered in fractions of 1%. Such changes are glacial and barely discernible in short periods.

Employment offers a common denominator by which different industries and different branches of one industry can be measured and compared. Individual branches of the textile industry are usually measured by different yardsticks; but to bulk together woolen card sets, cotton and worsted spindles, rayon looms, full-fashioned hosiery machines, tricot knitting machines, piece dye kettles, and so on, would give a distorted and valueless picture of the industry as a whole. Using number of employees, on the other hand, makes possible adding together the various branches of the textile industry for a common total and comparing the movement of the textile industry with the movements of other industries. With this number-of-employees yardstick, the Economics Department of the McGraw-Hill Publishing Co. has developed data from the Bureau of Labor Statistics, of the

(*Continued on page 182*)

* States included in sections named above are: NORTH—Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Ohio, Ind., Ill., Mich., Wisc.; SOUTH—Del., Md., Va., W. Va., N. C., S. C., Ga., Fla., Ky., Tenn., Ala., Miss.; WEST—all states west of Mississippi River.

New STEVENS LABORATORY Insures Fabric Quality

HIGHLIGHTS: *Central laboratory in New York makes routine and special tests for mills and sales department—Testing of new finishes and maintenance of product quality are main objectives—Staff of 20 engaged in physical-testing, serviceability-testing, dyeing-and-chemistry, and microscopy departments—Darkroom and projection room supplement facilities.*

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

SUPPLEMENTING the company's extensive quality-control facilities, the new J. P. Stevens & Co., Inc., laboratory in New York, N. Y., is making its contribution to maintaining the high quality of Stevens fabrics.

Routine tests are made of tensile strength; seam slippage; shrinkage in laundering and dry cleaning; colorfastness to washing, crocking, perspiration; light, and atmospheric gases—on all finished cotton dress goods, rayon underwear, men's sportswear, and "Slactex" fabrics. Other services performed include laboratory dyeing of head-ends, and general testing work on fibers, yarns, and fabrics.

Important information helping to improve gray- and finished-goods quality is gained from such special investigations as the analysis of defects, testing of new yarns and fibers, development of new testing methods and analytical procedures, and research on the properties of fabrics developed for specific end-uses. Those of the technical staff engaged in the analysis of fabric defects strive to track down the faults, regardless of whether the blame falls on the yarn manufacturer, weaver, or finisher, the objective being to correct such conditions.

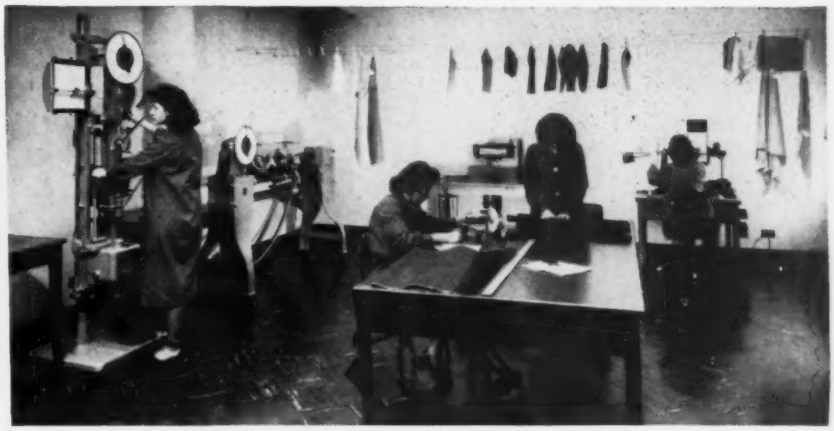
Supervised by Norman B. Gobeil, a New Bedford Textile School graduate, the operating staff of 20 includes trained textile technologists, engineers, and laboratory technicians.

The laboratory functions as part of the J. P. Stevens & Co. Research Department under Julius B. Goldberg, research director. This division also provides general technical service, such as reports on new products and processes pertaining to manufacturing, dyeing, and finishing; a monthly bulletin of *Textile Literature Abstracts;* and laterature or patent searches for sales departments or mills. Constant liaison is maintained with the mills and outside research laboratories and agencies.

Complete air conditioning for comfort is provided in the laboratory, and illumination by fluorescent lighting furnishes 40 to 50 foot-candles in working areas. Acoustical-tile ceilings are used throughout, and the flooring is waxed asphalt tile.

The large physical-testing room is

Stevens fabric samples undergo physical tests and . . . .

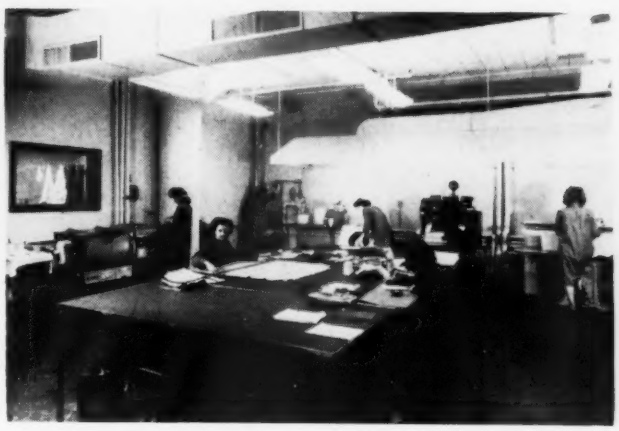


PHYSICAL TESTS ARE MADE . . . . . IN A CONDITIONED ROOM

Equipment includes an IP-2 single-strand tester, vertical and horizontal Scott testers.

Standard conditions of temperature and humidity are maintained in the physical-testing room. A Precipitron unit supplements air-filtering system in dust removal.

. . . . serviceability tests in routine and special investigations of . . . .



MODERN AND VARIED EQUIPMENT . . . . . AIDS TESTS FOR SERVICEABILITY

The effect on serviceability of new blends, constructions, dyes, finishes, is determined on a constant flow of representative mill samples.

Tests include color fastness to light, gas fading, laundering, and dry cleaning, as well as resistance to crocking and perspiration.

. . . . current and new fabric technology

FASTNESS TO GAS-FADING, LIGHT, AND WASHING IS CHECKED

In fastness tests, emphasis is placed on practical interpretation of test results in terms of consumer service.

Periodic check tests are made with commercial laboratories and service departments of dyestuff manufacturers.

Modern home-type automatic machine supplements standard laundry equipment. AATCC rain tester is in background.

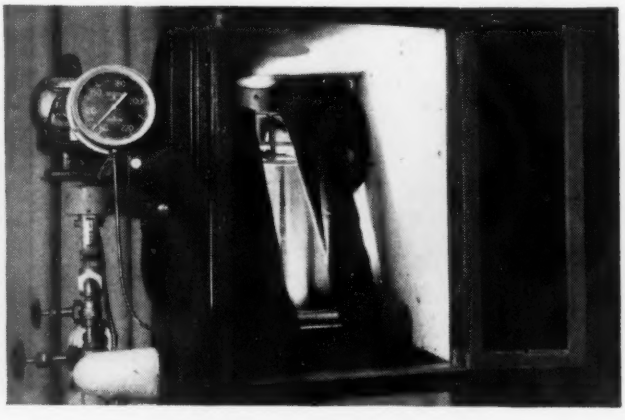
Chemical-laboratory facilities aid testing . . . .

CHEMICAL TESTS DETERMINE . . . . . FINISH, SIZE, OR FIBER CONTENT

Dyeing characteristics of a fabric are determined by the chemist while a laboratory head-end is framed after determining fugitivity of tint by boil-off

Various types of drying and heating equipment are used in analytical work and for measurement of heat resistance of specialty industrial fabrics.

. . . . and analysis of fibers, dyes, finishes



COMMERCIAL AND SPECIALLY MADE . . . . . EQUIPMENT IS EMPLOYED

Moisture content of fiber or fabric samples may be determined in this semi-automatic tester very quickly.

Dyeing of small samples is carried out in this specially built, stainless-steel, inclosed dye box.

maintained at standard conditions of temperature and relative humidity. The conventional air-filtering system is supplemented by a Precipitron unit to remove fine dust or smoke particles in the incoming air. In this room are Scott tensile-strength testers with maximum capacities ranging from 55 to 1,500 lb., and machines and instruments for making all kinds of fiber, yarn, and fabric tests.

Adjoining the physical-testing room is the serviceability laboratory with standard commercial and domestic washing machines and a flat-bed press with control for regulating pressing-head temperature to any desired degree. Also available are the latest facilities for determining colorfastness under all conditions and fabric water repellency to predict performance in service.

The chemical laboratory is furnished with a large chemical bench and exhaust-fume hood and necessary auxiliary equipment for conducting chemical analyses and dyestuff tests. A small model stainless-steel, all-inclosed dye box, specially designed and built for the laboratory, is capable of handling sample pieces up to 5 yd. in length. All of the equipment in both the chemical and serviceability laboratories giving off excessive heat, such as washing machines, press, and dye box, is located under a large hood with an exhaust system to prevent over-heating of the other rooms.

Full steel partitions separate the testing areas from the remaining sections which include the main and private offices, conference room, dark room and projection room, microscope room, and sample-storage files.

The combined projection and dark room is exceptionally large and contains projectors for fiber and fabric studies and demonstration purposes, cameras for photomicrography, and an ultraviolet lamp for special analyses of stains, finishes, fiber distribution, or defects. In addition, facilities are provided for making photo-prints of magazine articles in connection with the monthly bulletin of *Textile Literature Abstracts* which is distributed to New York office executives, sales, and technical staffs, and to the mills.

In the microscope room are both research-type microscopes with polarizer-analyzer as well as binocular microscopes, and apparatus for cross-sectioning fiber and yarn specimens. Here, too, are twist testers and yarn balances to supplement the use of the microscopes in tracking down causes of yarn

Photographic and microscopy equipment . . . .

DARKROOM AND PROJECTION EQUIPMENT SUPPLEMENTS . . . . . MICROSCOPE ROOM AND CONTROL ACTIVITIES

Projectors for fiber and fabric studies and two cameras for photomicrographs are part of the excellent darkroom equipment.

Microscopes and auxiliary equipment help to determine the causes of yarn and fabric defects.

. . . . speeds analysis, inspection, and reports

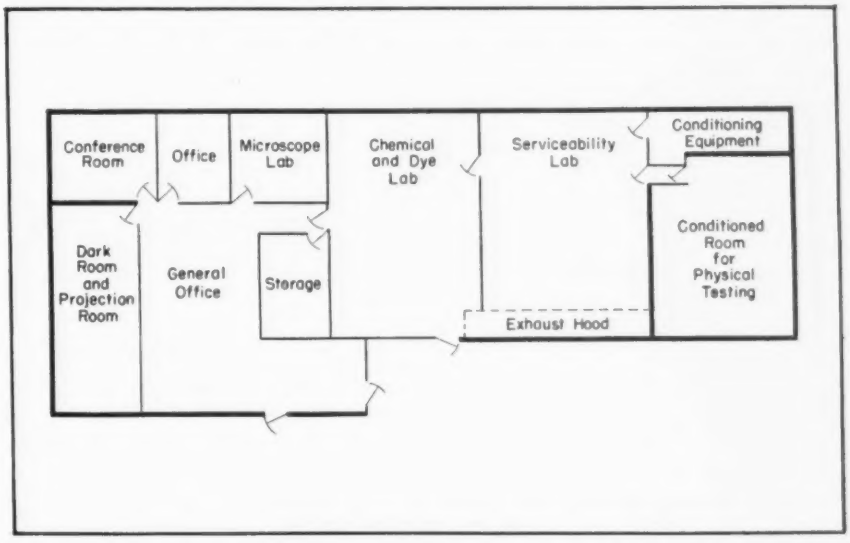
ADMINISTRATIVE STAFF COMPLETES REPORTS . . . . . OF LABORATORY TESTS AND INVESTIGATIONS

A secretarial staff of three is required to handle the output of reports to mills and sales departments. Conference room is far right background.

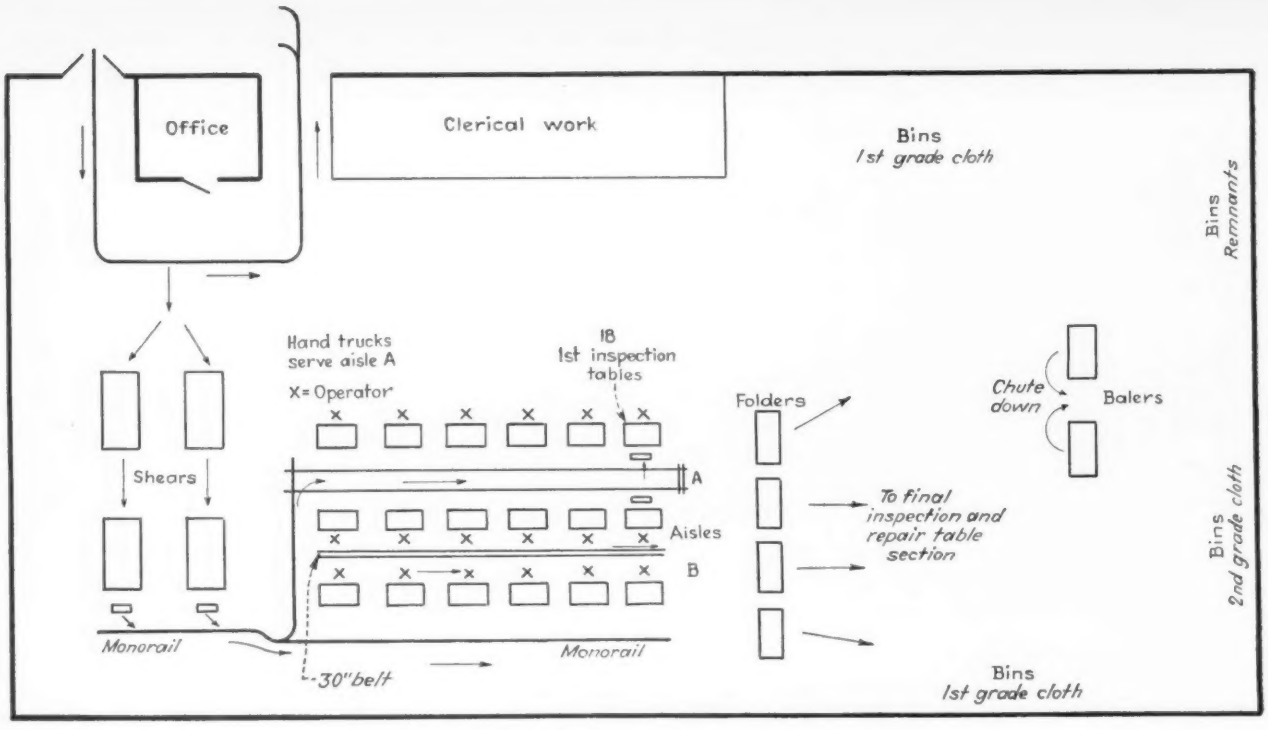
Representative cases of mill-inspected shipments of fabrics are sent to this examination department adjoining the laboratory for constant re-checking of quality.

and fabric defects. A valuable adjunct is a collection of a great variety of natural and man-made fibers and yarns, including a number of unusual specimens, such as regenerated real silk and experimental samples of fibers made from cottonseed meal and peanut protein, and some of the newer synthetic fibers not yet in production.

Adjacent to the laboratory is a large area with a battery of examining machines and skilled examiners given over to the inspection of finished goods as a further check on the routine inspection of the mills and central grading division as well as the finishing plants' examination departments. This division works in close harmony with the control departments of the mills to safeguard the quality of gray and finished fabrics produced by J. P. Stevens & Co., Inc.



***The departmentalized laboratory** is fully air and color conditioned and has 40 to 50 foot-candles of fluorescent light in working areas throughout.*



Non-scale diagram *shows Maverick's new cloth-room layout.*

CLOTH-ROOM Capacity Doubled by Modernization

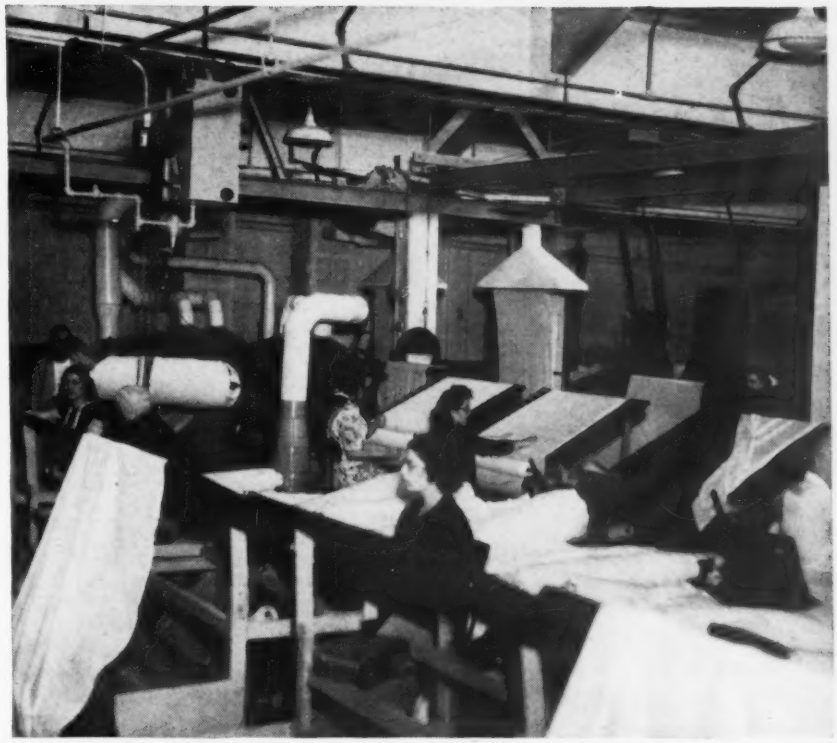
HIGHLIGHTS: *Maverick Mills improves equipment layout — Scale model facilitates locating machinery and arranging for straight-line inspection — Mechanical handling installed where needed.*

By H. S. KNOWLTON
New England Editor, TEXTILE WORLD

MAVERICK MILLS, East Boston, Mass., has a new cloth-room layout. Noble Foss, president of the company, started the ball rolling when he saw the need for less crowded conditions at the end of the mill's production line. At his suggestion a

Model of enlarged and improved cloth room *at Maverick Mills was built by John Venezia, returned veteran (shown at left), under direction of Harry Stott, master mechanic.*

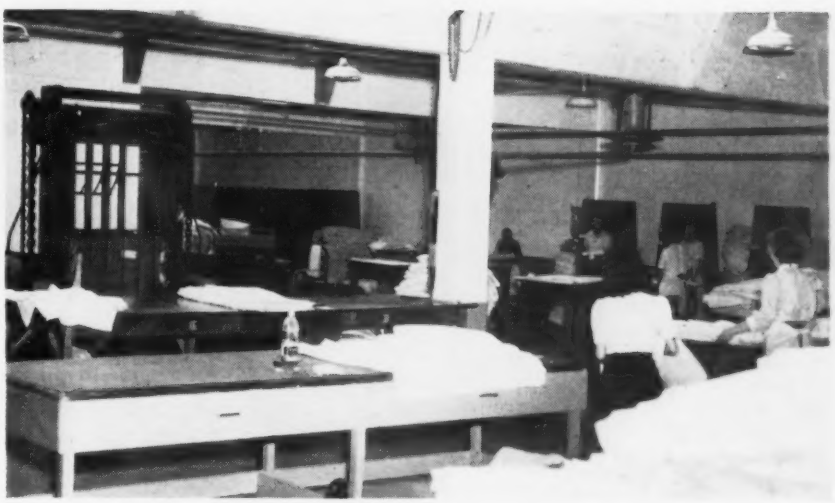
***Initial inspection tables** are shown with operators examining cloth. At the rear, left, is a roll carried by the monorail hoist prior to delivery to an inspection table.*



study was made and the division revamped with a new set-up. Then, a model of the proposed cloth room was made by John Venezia. The idea grew out of seeing some model desks and figures put out by Visual Production Planning, Inc., Pittsburgh, Pa. Built to a scale of ¼ in. per ft., the model has a Masonite base 46x18 in. and is 2½ in. deep. A Plexiglas cover protects the inside of the model. About 125 hr. were required to build it.

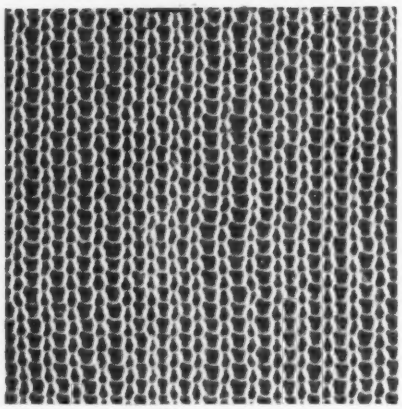
William Cohane, overseer, asked for 18 individual motor-driven inspection tables, which were designed by J. J. McElroy, general superintendent. They were installed with a monorail system for mechanical handling. Cloth from the weave room is delivered by a Louden "Supertrack" monorail with a 1,500-lb. hoist to the cloth room. Rolls are delivered to Curtis & Marble shearing units. They are automatically sewed together with a railroad stitch, cleaned, and beamed for delivery by monorail hoist and conveyor belt (serving one aisle) to the 18 initial inspection tables near by. From the initial inspection tables, the cloth passes to the folders (also Curtis & Marble). These fold the cloth into pieces. The folded pieces are then delivered to the inspectors at the final tables and are repaired as required or sent on by hand or by hand lift trucks to the storage bins along the walls and at the end of the cloth room. A new Economy baling machine prepares the pieces for shipment. The 300 to 500-lb. bales are delivered to the basement by chute for storage or trucking away from the mill.

Formerly, the cloth-room capacity for handling was about 300,000 yd. per week. It can now handle 600,000 yd. in a week of one 40-hr. shift. The accompanying diagram and illustrations indicate the essentials of the improved layout. The mill produces voiles, lawns, dimities, and handkerchief stock.



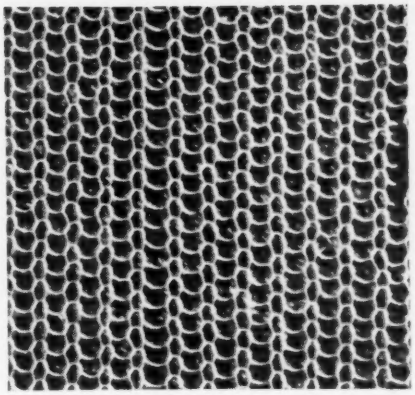
***Final inspection table section** shows Economy baler at rear and storage bins at right along wall.*

***Hand-operated lift truck** (Lewis-Shepard) is used for handling cloth in or out of the storage bins.*



Seamless defects tell their own story. The overly large wales at left are individual streaks caused by foreign matter which impeded action of needle latches. The series of unequal wales shown at right mean tight sinkers.

Photos by Mal Bowden, Southern Editor, TEXTILE WORLD



SEAMLESS-HOSE Streaks Can Be Eliminated

HIGHLIGHTS: *Photographic analysis shows the "why" of streaks caused by imperfect latches—Highest quality of fine-denier seamless hose obtained by new 75-gage, 80-hook needle—Improperly maintained sinkers, cams, and needles cause varied types of streaks.*

By CHARLES W. ARROWOOD

STREAKS in women's 400-needle circular-knit hose are especially troublesome in the new dark shades of fine-denier nylon. Imperfections which show up in the darker shades are scarcely noticeable in the standard lighter shades. In some cases, the defects have caused serious objections to circular-knit hose and particularly to those made from 10- and 15-den. yarn. However, these defects are not insurmountable if proper attention is given yarn, needles, and general mechanical conditions.

The photographic analysis on these pages offers suggestions for elimination of some causes of streaking. The defects illustrated result from mechanical faults. The one general, underlying cause of most seamless streaking is improper or careless maintenance. Hosiery mills, needle producers, and machine manufacturers all have intensified their efforts to improve their particular contribution to seamless knitting. Yet, only the mill itself is familiar enough with its particular requirements of yarn and its particular system of mechanical maintenance to know precisely how to gage the effectiveness of a quality program.

Where improper maintenance is the general cause of trouble, the particular sources are usually found in needles, sinkers, and cams. Streakiness may, for example, result from improperly opened latches.

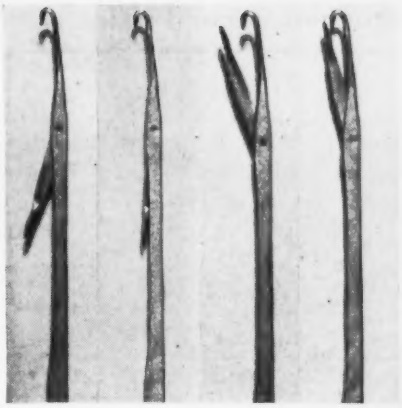
The latches are opened or closed by previously knitted loops as the needles take on new yarn and form new loops. When working properly, the latches exert no undue pressure on the previously formed loop. When they open or close imperfectly or when they are not in line with the needles, they not only exert undue pressure on the loops but also they may expand or distort those loops as the needles travel up and down through the work. For example, the slightest variation in latch-closing resistance will cause the needle wales to be unequal. The result of unequal wales shows up as vertical streaks.

CHECK NEEDLES. The mill must first be sure that it is using the best possible needle for fine-denier yarns. In fine-denier work, the new 75-gage, 80-hook needle has been exceptionally effective. It has smaller latch spoons which are less likely to expand the loop or distort the wale. Once in place, any needle must be examined at frequent intervals to guard against a stiff, tight, or improperly working latch. Such an irregular latch is usually found to be bent as a result of an accident or to be impeded in its function by an accumulation of size. If bent, the needle should be removed from the machine; and if size accumulations occur around the latches, the needles should be cleaned and recurrence of size accumulation should be prevented as far as possible. When properly applied, a solvent oil will eliminate size accumulations.

To apply solvent oils, mills use brushes, drop oilers, and other means. The method found most effective at North Carolina State Vocational Textile School and at some mills is the combination bottle-and-trough oiler through which the yarn passes before it enters the yarn guides. Properly oiled yarn gives constant cleansing and lubricating action to needles, sinkers, and cams, which eliminates the accumulations of size and other foreign matter.

Other mechanical faults will cause streakiness in circular hose. Needles may be bent, tight, or out-of-line in the slots. There may be too much clearance between raising and stitch cams. Needle or sinker slots may

Mr. Arrowood is head of the knitting department at the N. C. State Vocational Textile School, Belmont, N. C.



***Latch-made streaks** can be controlled. Needles on the left of each pair shown have latches which do not operate properly at the top or bottom of their movement. Needles on right show latches in proper positions.*

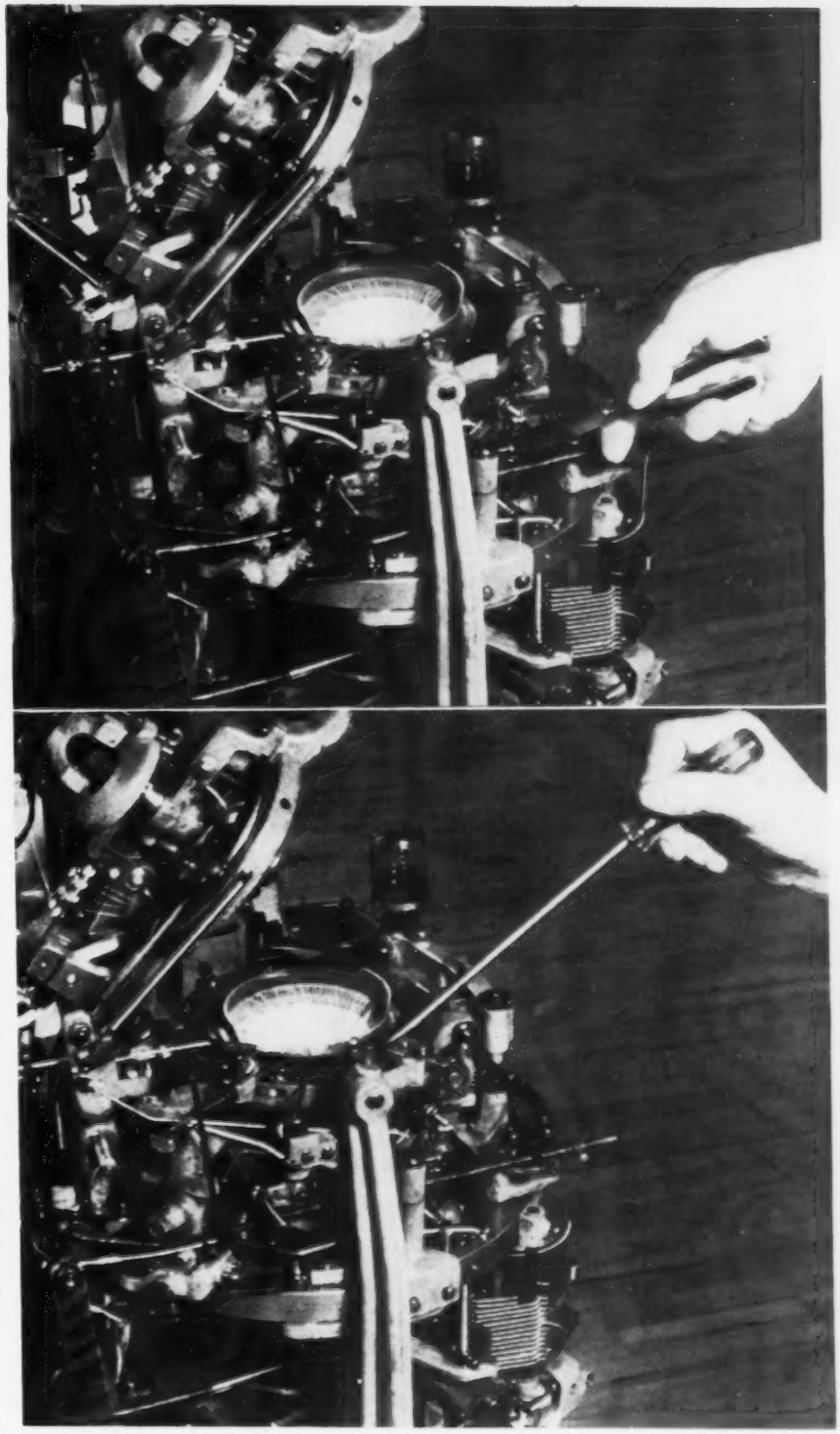
need cleaning, for a very small particle of trash in the slot will press a needle out of line and cause unequal wales. When removing needles or repairing a smashup, the fixer should examine needle and sinker slots very carefully and clean them of foreign matter.

FUNCTION OF SINKER. The functions of the sinker may be impaired by careless or inadequate maintenance. These functions are to assist in the formation of the loop, to hold down the finished loop, and to equalize the wales by maintaining a maximum tension at all times upon the finished loops. To accomplish its functions, the sinker must work freely, cams must be adjusted and gaged, and spring sinker-bands must exert the proper tension. As in the case of the needles, a small piece of trash under the sinker will cause streaking. The sinker-caused streak, however, will show differently in the hose: the small particle under the sinker will raise it higher than other sinkers, causing the needles on each side of the high sinker to draw longer loops than the other needles.

A series of tight wales are usually caused by a series of tight sinkers which are not working freely in their slots. Unless the sinkers move freely, the spring band will not hold them sufficiently even to equalize the wales. Sometimes, such a condition is caused by an outside sinker ring which slips or is moved from its center. Tight sinkers may also be caused by a smashup in the sinker head. Any damage to the sinker or to the sinker walls may result in tight sinkers.

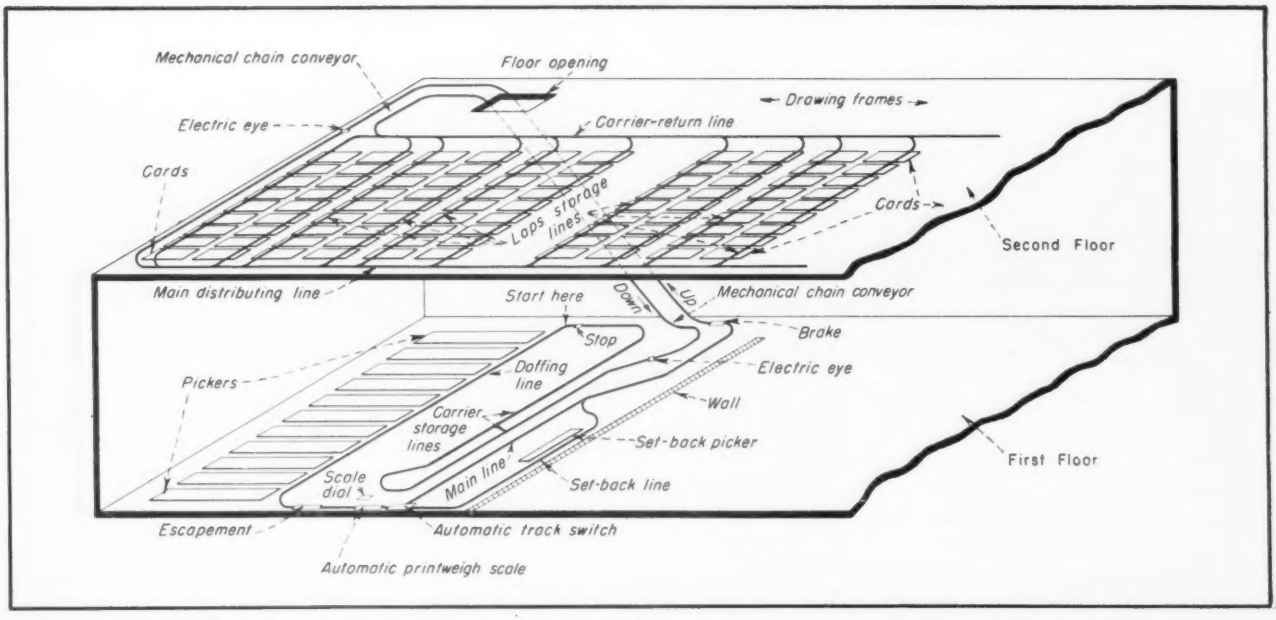
In a careful check upon the condition of sinkers, the imperfections to look for are: bent butts, burrs, nicks, grooves cut by the yarn, and smashup damages. While fine-gage sinkers are made of the best possible metals, they may be cut, bent, and otherwise damaged by smashups or other accidents. It is the duty of the fixer to detect these imperfections before they cause serious deterioration in quality of the hose.

The better mills are proving every day that careful follow-up on mechanical details is the way toward high quality in seamless hose. With mechanical faults under simple but thorough control, mills can concentrate upon running a yarn which is well sized, properly twisted for the denier, and satisfactorily coned for efficient processing. Control of mechanical faults and supervision of yarn mean that a mill's program for overcoming streaks is headed for success.



***Remedies for defects** pointed out on the 400-needle seamless machine. Above, the fixer removes an imperfect needle for cleaning. Below, the fixer raises the sinker spring-band which has been moved out of place, and thus he eliminates a series of tight sinkers.*

Laps are conveyed from pickers on first floor to cards on second floor

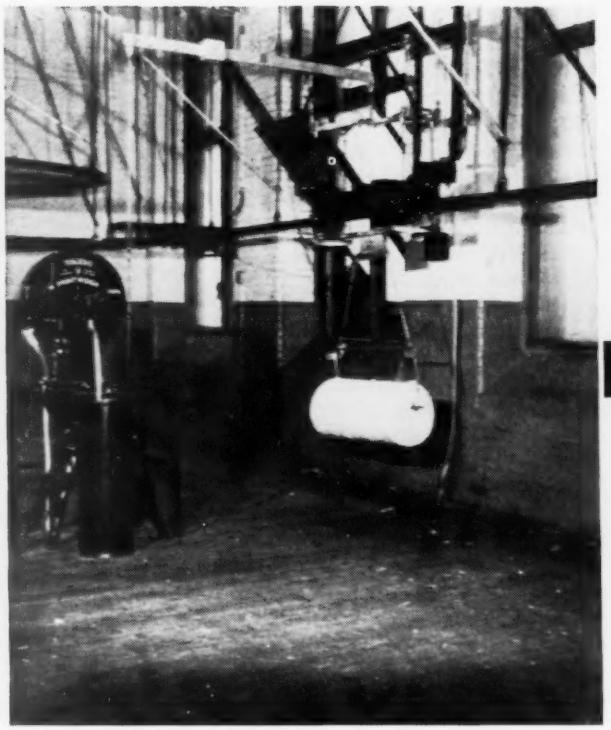


Lap carriers move **by gravity through the cycle from pickers, to scale, to power inclined conveyor, to cards, and back to pickers.**

Mechanical LAP HANDLING
System Produces Savings

PICKER LAPS MOVE BY GRAVITY TO . . . .

The finished picker lap is doffed and lifted off the picker by an empty lap carrier.



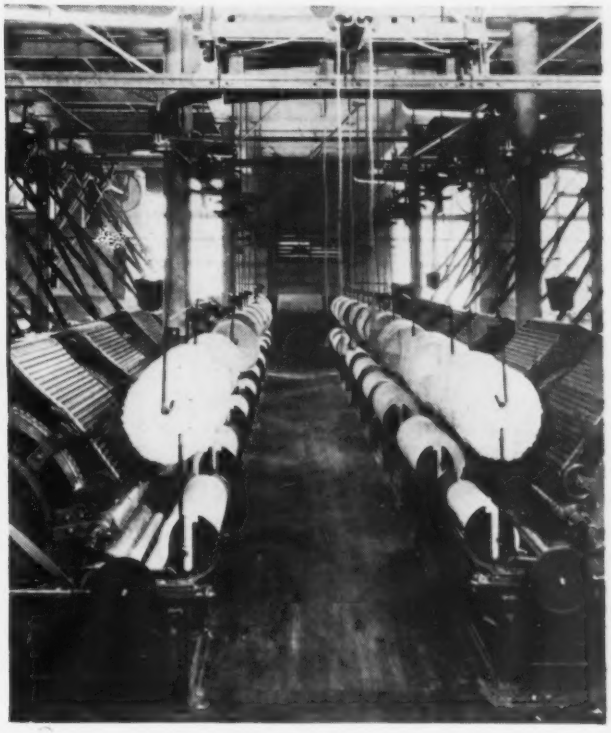
. . . AN AUTOMATIC SCALE WHICH SENDS SUITABLE LAPS . . .

A fully automatic scale weighs the lap. Laps that fall outside the permitted tolerances are rejected and returned to the opening room.

HIGHLIGHTS: *Elimination of manual handling at Columbia Mills permits increase in lap weight to 70 lb.—Print-weigh scale automatically rejects off-standard laps—Laps carried upward one floor from pickers to cards.*

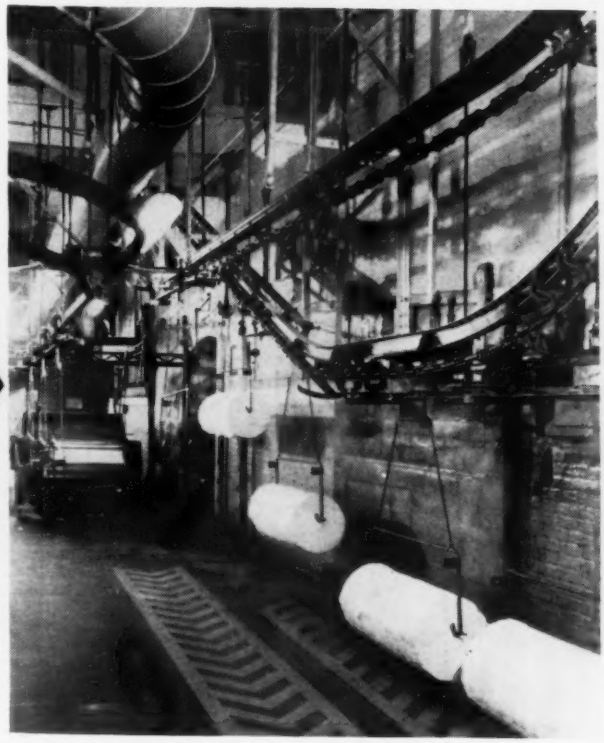
FROM TOP OF CONVEYOR GRAVITY CARRIES LAPS . . .

Traveling again by gravity, the laps move to the cards where they stop in the usual spare-lap position.



. . . TO SPARE-LAP POSITION AT CARDS

Laps are creeled into the cards by hand and empty lap stick is placed in carrier which is returned automatically to the picker room.



. . . TO AN INCLINED CONVEYOR TO CARD ROOM

Lap carriers are picked up by a power conveyor and lifted to the card room on the floor above.

By W. B. McGUIRE

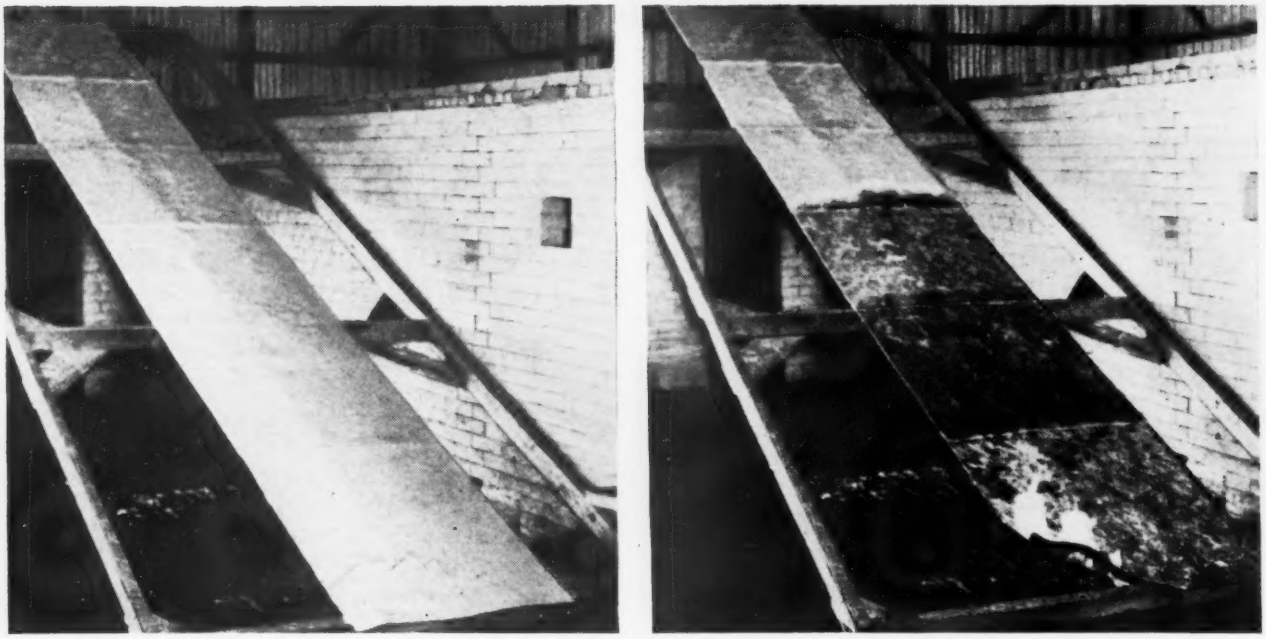
P.O.M. Co.—Werner Textile Consultants, Inc.

PICKER LAPS weighing 70 lb. are being produced at Columbia Mills, Columbia, S. C., as the result of a lap-handling installation which practically eliminates manual handling and lifting. Weighing to insure that only standard-weight laps enter the card room is also mechanical and automatic. Additional results are reduction of picker-tender work load, reduction in waste, improvement in sliver quality, elimination of aisle and passage jamming by trucks, and elimination of elevator and operator.

Hauling of laps from picker to scale has been eliminated. Instead of having to lift the picker lap out of the picker, place it on a scale, wait until the scale comes to a standstill, read the scale, judge whether the weight is within the allowed tolerances (which may or may not be done conscientiously), take the lap out of the scale, place it on the floor or into a lap truck—the picker tender merely has to lift the lap out of the picker by means of the carrier hook, and push the carrier aside. All other operations are taken care of by the mechanical system. A print-weigh scale records lap weights and number of good laps.

Lap carriers move by gravity throughout picker and card rooms. A power conveyor is used to lift laps from the first-floor picker room to the card room on the floor above.

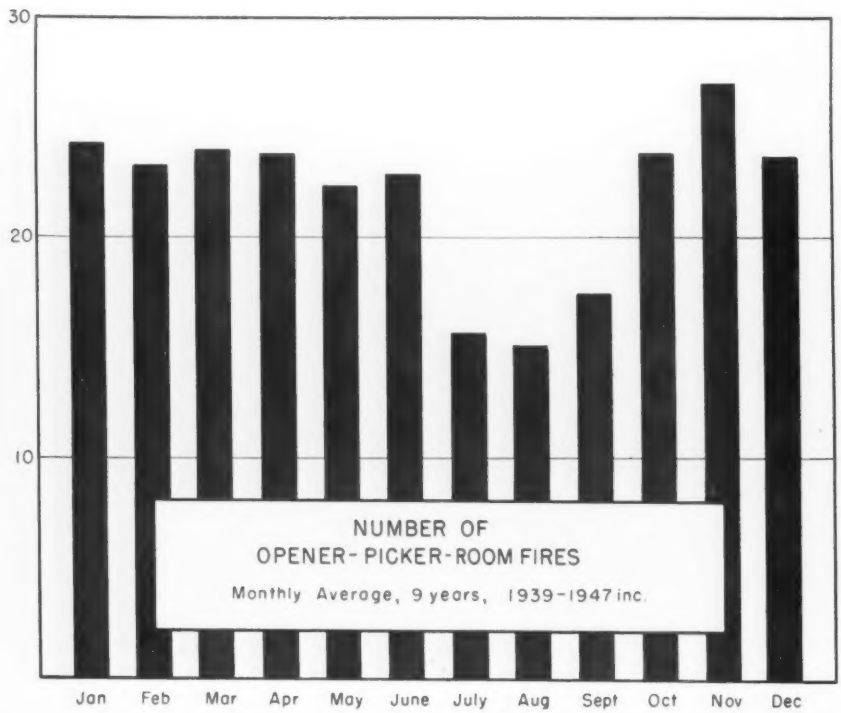
The lap-handling system was designed by P. O. M. Co., industrial consultants, and Werner Textile Consultants, Inc. Lap carriers were made by the mill. The overhead-conveyor system was furnished by American Monorail Co.



Cotton-lint panels were developed to study influence of humidity and other factors on rapidity of fire spread.

Humidification Cuts PICKER-ROOM FIRES

HIGHLIGHTS: *Opener and picker rooms responsible for more than half fires reported annually—Tests of lint burning made with panels—Four factors influence flame spread—Test data corroborated by mill experience that humidification retards flame spread and reduces fire frequency.*



By R. G. SHEPHERD*

THE VALUE of uniform moisture conditions at the start of cotton preparation is being recognized more and more, as indicated by the increasing interest that cotton mills are showing in the humidification of opener-picker departments. Better control of lap weights, which are directly affected by the percentage of moisture in the fiber, is certainly an important function because its beneficial effect is evident right through the succeeding processes. The definite trend to humidification has been aided by improved air-conditioning methods and by the introduction of efficient return-air filters, which are particularly important at mills using large quantities of air instead of mechanical action for opening and cleaning.

* *Mr. Shepherd is an engineer for the Associated Factory Mutual Fire Insurance Companies.*

Apart from more accurate control of manufacturing, many other advantages and savings are apparent. Several will be mentioned later, but the main purpose of this article is to present some interesting data from field surveys and laboratory tests indicating the value of humidification in preventing opener-picker fires. When fire prevention can go hand in hand with more efficient manufacturing methods, there is reason to feel that progress can be made in the two mill departments which are responsible for more than half the cotton-mill fires annually reported.

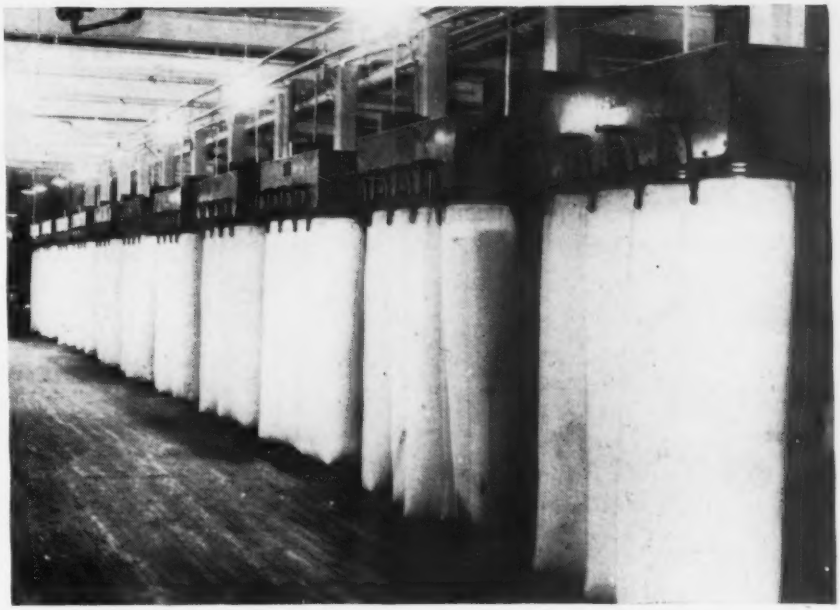
For years it has been known that cotton opener-and-picker-room fires occur less frequently during the summer than during other seasons, as shown by the accompanying graph. This was generally attributed to the fact that the relative humidity of the atmosphere is high in summer, and that in other seasons the cotton is drier and more readily ignited by sparks of limited intensity. Definite proof, however, was lacking, and the possibility of other influencing factors could not be ignored.

The burning characteristics of cotton lint and the factors influencing rate of flame spread had never been thoroughly investigated. At the testing station of the Factory Mutual Laboratories in Norwood, Mass., many types of tests have recently been run with fiber, roving, yarn, and cloth.

INVESTIGATION. The original program was a broad investigation of the main causes of textile-process fires and the most effective means of handling such fires with hand extinguishers. To compare extinguishing methods, a standard fire test was developed using a lint panel 18 ft. long by 3 ft. wide, having a starch surface undercoating and a fluffy lint top surface ¾ in. deep. A supporting screen frame was constructed merely to provide ease in handling so that fire tests could be repeated at close intervals and at various angular positions. This arrangement also gave exposure to all sides of the panel.

During the extinguisher tests, which extended over a year, under variable seasonal humidities, difficulties were encountered in maintaining uniform burning conditions with the test panel. It was noted, however, that under similar conditions of humidity and position, the time required for the flame to travel the length of the 18-ft. panel was invariably the same, within a second. Under different humidities, and with other conditions constant, large variations in burning time were found.

The following tables show the time of flame spread in seconds, over the 18-ft. panel, (1) under different humidities and a constant angle of inclination, and (2) under different angles of inclination and constant humidity.



***Return-air filters** (shown) and humidification have advantages beyond reduction of fires.*

Varying Humidity, Constant Angle of 25°

Moisture Regain	Flame-spread in Seconds
4.6%	34
9.4%	42
10.1%	53

Varying Angles, Constant 8% Regain

Angle	Regain	Flame-Spread in Seconds
Horizontal	8%	40
25°	8%	34
30°	8%	30
35°	8%	20

Other series of tests using surfaces of different densities indicated that as the looseness of the surface was decreased or its compactness or density was increased, the lower was the rate of flame spread. It was evident that the four principal factors influencing rate of flame spread were: (1) moisture content, (2) density, (3) position or angle of inclination and (4) surrounding air movement.

RATE OF SPREAD. When flame spreads over a cotton-lint surface, there is progressive re-ignition from fiber to fiber. The rate of flame spread is therefore also a direct measure of ignition probability. It is assumed that the factors of density, angle, and surrounding air movement have relatively little influence on the original ignition of the fibers. Thus moisture content is the most important factor in the susceptibility of cotton to ignition, although the tests and field experience showed that all four factors influenced the rate of flame spread after ignition was established.

Strong corroborative evidence of the value of opener-picker room humidification was obtained from a recent field survey of some 250 cotton mills. In mills having humidification, the average fire frequency was only 39% of the average at all mills. Added to this favorable trend was the important fact that the average damage caused by fires was only 35% of the over-all average.

It has become evident that only a slight differential in the regain made considerable difference in fiber ignition from incipient sources. The safety zone appears to start in the regain neighborhood of 6.5 to 7%. In other words, maintaining a relative humidity of 50 to 60%, figured on a basis of 70° F., reduces the fire-frequency probability. Below 6% regain, cotton fiber becomes increasingly susceptible to ignition by sparks, and an increased rate of flame spread becomes a more serious possibility. This explains why some cotton-lint fires spread rapidly and are often difficult to control. By contrast, where the regain is held to the recommended higher level, flame spread is slower, more time is permitted the fire fighter, and fires thus are more easily extinguished.

With the increasing adoption of return-air filters and of humidification control in opener-picker-rooms, economic advantages other than reduced fire hazard appear to be obtainable which will materially improve over-all mill conditions. These advantages include the elimination of hazardous dust rooms and their possible utilization for manufacturing or storage space, more simplified collection of opener-picker waste, cleaner working conditions, higher germicidal properties of air with 50 to 60% humidification[1], conservation of heat, and improved manufacturing control.

[1] J. of Experimental Medicine Feb1-48

C & K Produces First of TRAINING-FILM Series

Opening of the film is presented against background of a mill installation of an S-6 loom.

HIGHLIGHTS: *Introductory film on S-6 loom completed — Slow-motion camera shots slow down split-second operations—Series of training films planned by Crompton & Knowles Loom Works for use by mills in training loomfixers and operators.*

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

"Stroboscope Analysis of Its Modern Automatic High-speed Bobbin-Changing Dobby Loom," a motion picture film on the S-6 loom, has been completed by Crompton & Knowles Loom Works, Worcester, Mass. The film is introductory in nature and will be useful to mills in training loom-fixers and other weave-room workers in the nature of the weaving operation.

The film on the S-6 loom is the first of a series planned by Crompton & Knowles on the looms produced by the company. The objective will be to enable mills to give loomfixers a sound, basic knowledge of the C & K loom in a total of about 8 hr. of film showing. Films planned for the future will deal in detail with the construction, operation, setting, and maintenance of individual motions and parts. Fabric defects, their causes and cures, are also planned to be covered in detail.

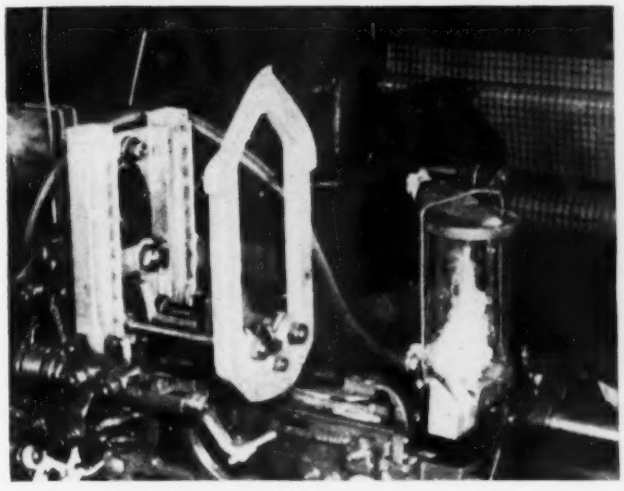
The new 16 mm., black-and-white, sound film opens with a full view of the S-6 loom in operation. Then each major motion of the loom is covered—construction and method of operation are shown and described. Showing time is 31 min. A voice describes each motion or operation as it is shown. For clarity, some individual parts are painted white and are pointed out as described.

Some excellent slow-motion sequences slow down such "quick-as-a-wink" operations as bobbin transfer, shuttle boxing, etc., so that the actual happenings may be observed in detail. The film describes and shows the operation of the following motions and assemblies:

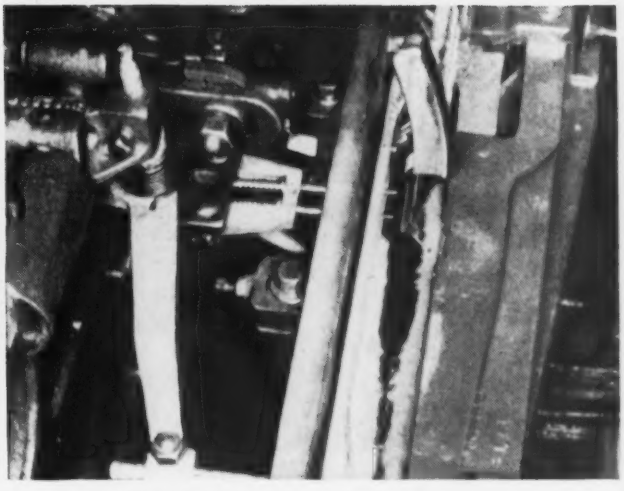
Dobby
Let-off
Shuttle inserting filling in shed
Bobbin magazine (2 cell)
Electric filling feeler
Box motion
Bobbin transfer
Filling cutter
Filling end remover
Vacuum thread collector
Center filling-stop motion
Electric warp-stop motion
Crankshaft connections at time of protection
Bat-wing pick motion
Operation of pickers at both ends of lay
Parallel motion
Floating shuttle binder

This first film was made by Crompton & Knowles personnel at the Worcester plant, and future films will be produced in the same manner.

Loom operations are shown in detail . . .

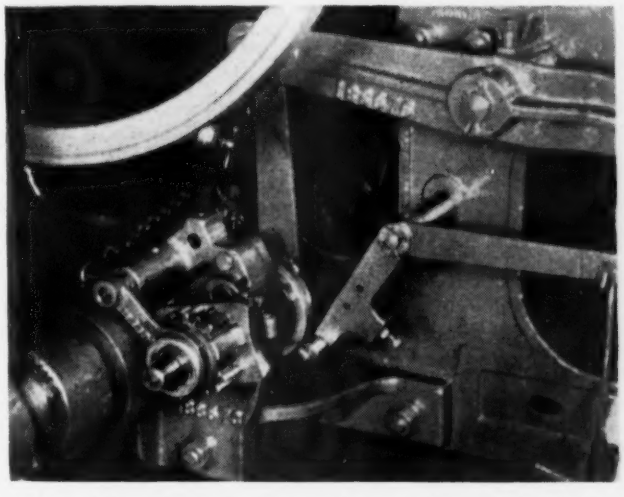


***Swing of the 2-cell magazine** prior to transfer, and gathering of waste by vacuum thread collector are shown at normal and slow speeds.*

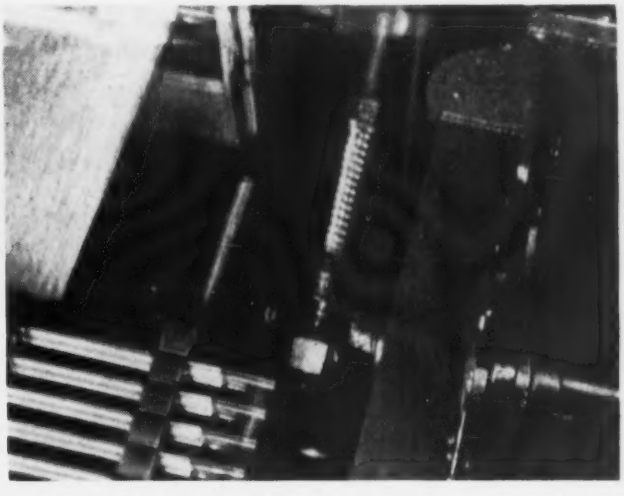


***How electrical contact** is made as filling quill becomes empty and transfer mechanism is actuated are shown in detail. Parts being described are painted white for clarity.*

. . . . at both normal and slow-motion speeds . . . .

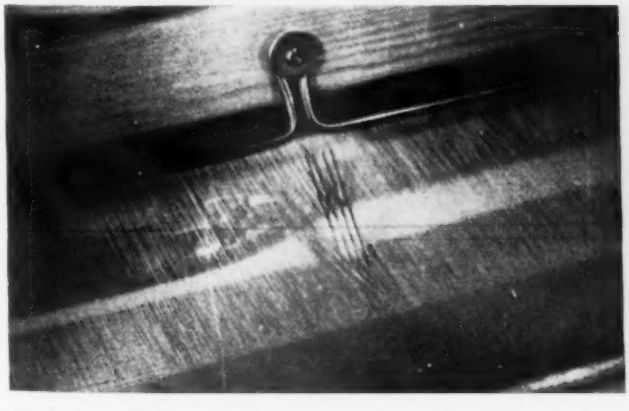


***Action of box motion** to cause a change in boxes is described in detail and shown in slow motion.*

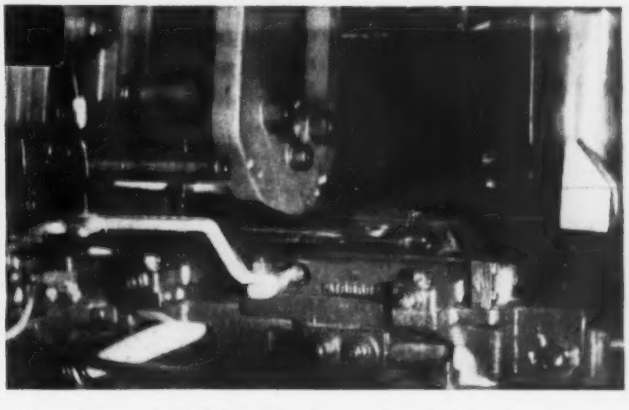


***A slow-motion sequence** shows the compression of the crankshaft-connector springs when the protection motion operates.*

. . . . in C & K's training film on the S-6 loom



***Operation of the center-fork** stop motion is described and shown both with and without warp yarns in the reed and at both normal and slow-motion speeds.*



***The split-second bobbin transfer** is slowed down by the slow-motion camera so that the bobbin appears to float out of the shuttle. For production of the film, full bobbins were transferred.*

THE FOOD IS COOKED . . .

Hot meals for Pilot Full-Fashion Mill's on-the-job-feeding program are prepared in this modern kitchen.

THE PLATES ARE PREPARED . . .

Pre-heated Pyrex dishes are removed from the oven and placed in the lower half of the Mealpack container.

ON-THE-JOB FEEDING
Brings Hot Meals to Knitters

HIGHLIGHTS: *Pilot Full-Fashion Mill, Valdese, N. C., serves knitters hot meals at their machines—New meal container maintains food temperature 2 to 3 hr. after packing—Ideal eating temperatures of 128° to 130°F. obtained by novel system.*

By C. MALLARD BOWDEN, *Southern Editor, TEXTILE WORLD*

KNITTERS EAT a full hot meal right on the job at Pilot Full-Fashion Mill, Valdese, N. C. No longer do they rely on cold sandwiches or crackers to sustain them. But they do not leave their machines. The hot meal comes to them in a new container called Mealpack that holds a meat, two vegetables, dessert, bread, cutlery, and napkin. The unique container keeps the food portions separate, maintains food temperature for 2 to 3 hr. after packing, indirectly overcomes possible hosiery-production loss, and greatly benefits employee health and efficiency.

Thus, Pilot Full-Fashion Mill completes its modern and elaborate industrial-feeding system, one of the many employee conveniences that mark the company as among the most progressive in the South. Already providing feeding facilities for more than 800 employees in the mill cafeteria, Pilot now carries healthful on-the-job eating to skilled knitters and other employees who cannot leave their machines for a lengthy trip to the cafeteria and to third-shift employees not readily served by usual cafeteria methods.

HOW IT IS DONE. To provide on-the-job eating at noon, Pilot's cafeteria employees under the direction of R. H. Thornton, cafeteria manager, pack the Mealpack containers about 10 a.m.; for the second-shift meal, they pack the meals at 4 p.m.; for the third-shift meal, they pack them at 8 p.m. Pilot's procedure during preparation is as follows:

1. A Pyrex dish is pre-heated in an oven for several minutes at 240° F.
2. The dish is placed in the lower half of the metal container.
3. Freshly cooked foods are portioned into the dish which has separate compartments for two vegetables and a meat.
4. An expendable dish lid (made of laminated aluminum foil to seal in the heat) is fitted to the Pyrex dish with a special tool that comes with the Mealpack assembly.
5. Cutlery, bread, dessert are wrapped in moisture-proof paper and are placed on top of the aluminum-foil dish lid. Napkin is inserted.
6. The upper half of the stainless-steel container is fitted to the lower half and fastened with a Sealock.
7. Mealpack containers are loaded onto the service cart. Beverages also are placed on the cart.
8. The cart is pushed into the mill, and the meals are delivered to the employees right on the job.

The Mealpack assembly consists of various parts as mentioned. The Pyrex dish fits snugly into the lower half of a satin-finish, stainless-steel container. An applicator is used to fit the special expendable lids to the dish and thus to seal in the heat and also to maintain separation of the food portions. The upper half of the metal container locks to the lower half and is provided with a handle for the convenience of the packing operator and the eater. The lower half of the container becomes a dish itself when the package is opened in the mill.

FOOD TEMPERATURES. The ideal eating temperature for most hot foods is 128° to 130° F. Ideal beverage

THE FOOD IS PACKED . . .

Lola Williams (right), and Hazel Dockery (left) portion the hot food into the Mealpack containers. A special aluminum-foil lid fits tight over food to retain the heat and to prevent mixing of foods. Top half of stainless-steel container completes the seal.

THE CONTAINER IS DELIVERED . . .

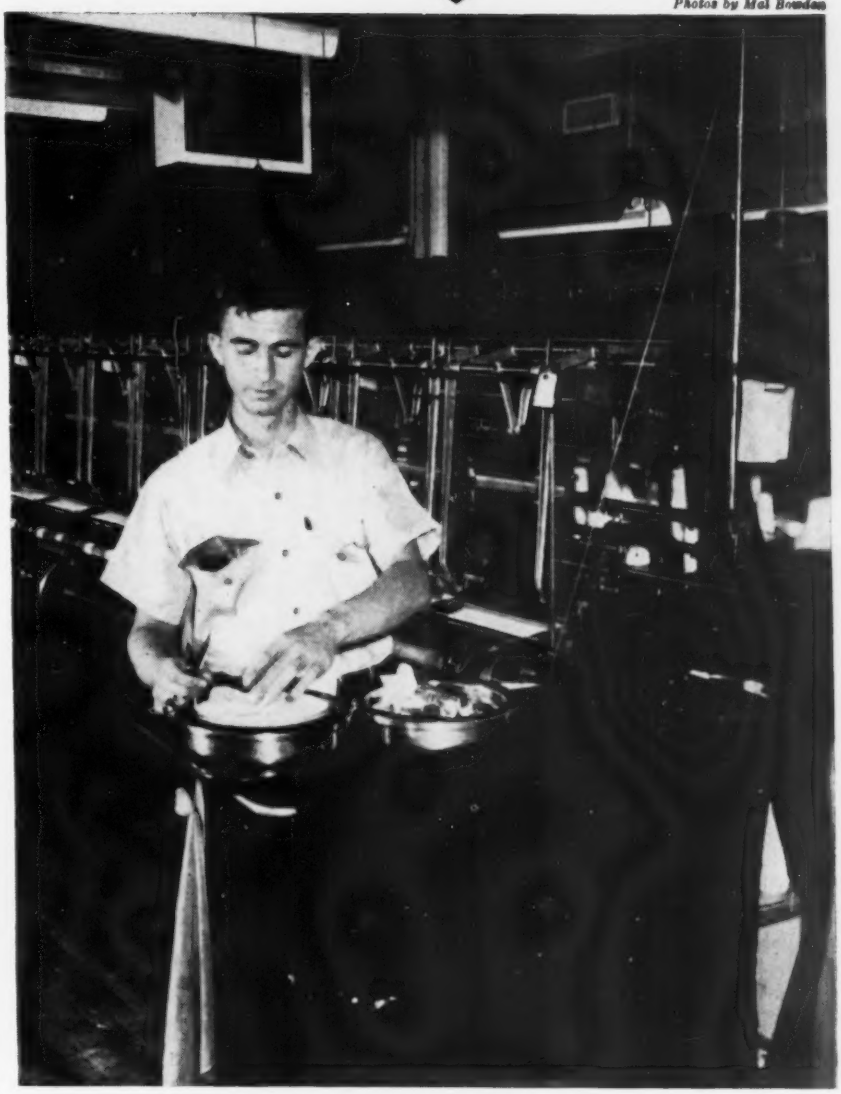
Lola Williams delivers piping-hot meal to knitter Roy Powell in special cart that carries containers and beverage.

temperatures range from 165° F. up. It appears from Pilot's experience with the Mealpack system that these temperatures are easily maintained in the foods. Chilled menus may be packed and sealed in Mealpacks provided the Pyrex dish is pre-chilled.

Proper dish pre-heating is essential, according to R. H. Thornton, if maximum heat holds of 2 to 3 hr. are desired. The heat retained in the dish, plus the heat of the food, determines the final food temperature when the container is opened. Only the food and the Pyrex dish are heated originally. The lid retains the heat, and prevents the intermingling of flavors or juices, discoloration, spillage due to rough handling, oxidation, and loss of moisture.

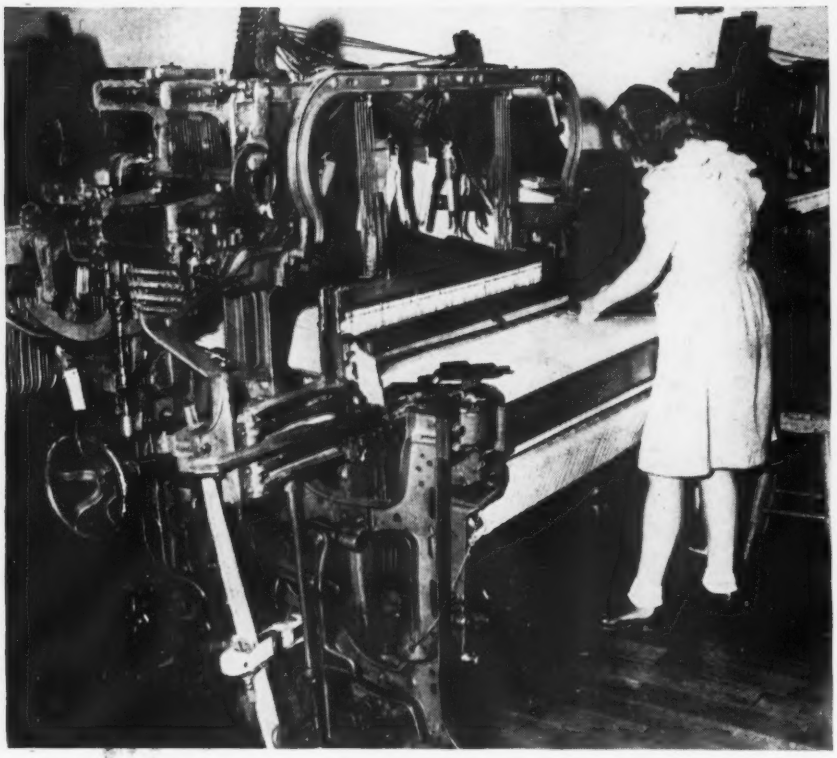
Besides providing hot food for employees who cannot come to the cafeteria, the on-the-job-feeding program at Pilot mill has presented several other advantages. The serving and packing of food for mill consumption is done at an off hour, thus leveling off the peak loads in the kitchen and reducing the time required for meal distribution. The system permits centralization of food control and management hitherto unobtainable as far as mill consumption is concerned. All employees now can obtain good wholesome diets regardless of the confining requirements of their jobs. Employee health, efficiency, and morale are favorable aspects of the Pilot system. But by far the most welcome advantage of Pilot on-the-job feeding is the fact that knitters can now get a hot meal that will stay hot up to and during the eating period.

Photos by Mal Bowden



THE FOOD IS EATEN . . .

Knitter Powell opens the container, finds that his chicken pie is still hot.



***Inspection by the weaver** is the first step in holding down seconds. Close coordination of the work of the weaver, loomfixer, and cloth inspector is the basis of cloth-quality control in most Alabama mills.*

Checklist for Installing New Shuttle

Loomfixer is to inspect the loom thoroughly to make adjustments, repairs, or worn-parts replacements as needed. Second hand to check loom by the following list before the loom is started:

1. Shuttle. (See that it is correctly dressed and bristled.)
2. Lay ends and back box plates. (Square and line.)
3. Right- and left-hand binders.
4. Parallel motion and pickers.
5. Protector rods and bearings.
6. Dagger and dagger stops.
7. Crank arms.
8. Swords.
9. Frogs and brake.
10. Rockershaft and bearings.
11. Rockershaft end play.
12. Depth of shuttle in right-hand box.
13. Transfer motion.
14. Filling motion.
15. Check, time, and set harness motion.
16. Temple.
17. Pick motion.
18. Check and correct any other parts that may be loose, worn, or out of adjustment.

LOOM CHECKING
Is Aid to Good Weaving

***HIGHLIGHTS:** Shuttle life may depend upon proper inspection of the loom—Large beam heads increase production but create problems in handling and style turn-over—Alabama men favor preventive inspection-and-maintenance programs.*

PUTTING A NEW SHUTTLE in a loom is an important operation in most mills, according to information revealed at the recent meeting of the Alabama Textile Operating Executives. Some mills require their loomfixers to check and adjust only the loom parts that directly affect the shuttle, but many mills prefer to use this period for extensive inspection and adjustment.

This question on putting in new shuttles was one of six discussed during the weaving session of the meeting. C. H. Moody, superintendent, Dwight Mfg. Co., Alabama City, led the discussion. A report on the slashing session also appears in this issue.

A representative routine followed by mills in putting in new shuttles is as follows:

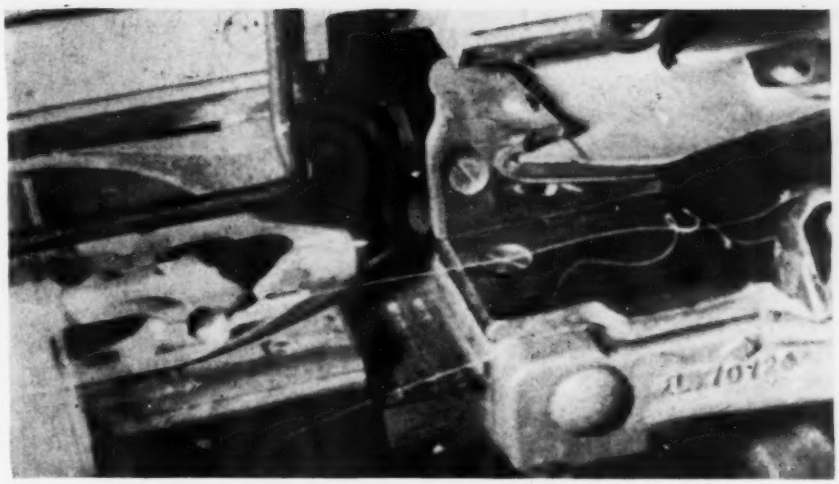
1. Line the lay.
2. See that all leather is good.
3. Check protector rods for play.
4. Adjust the loom for proper picking.
5. Check rockershafts for play.
6. See that battery is free of play.
7. Set brakes properly.

In some mills, the loomfixer is required to make these adjustments before a shuttle is issued to him. He must go to the second hand for an order for the new shuttle; and before the new shuttle is put into operation, the second hand checks all the points to make certain that the loom is ready for the shuttle.

SECOND CHECK. Usually, a second check is made after the shuttle has been running for some time. If the shuttle shows signs of wear or cutting, the loomfixer is notified. The loom is stopped and the trouble located.

Some mills provide the loomfixer with a checklist. Before the new shuttle is installed, the fixer checks every item on the list, flags the second hand, and stands by until the second hand inspects the settings by the list. The loom is started up with the new shuttle only after the second hand approves the settings. A checklist used by one mill is shown.

A checklist used by another mill, on multiple-shuttle looms, is as follows:



The shuttle in a large measure determines the quality of weaving. An adequate system of checking and adjusting the shuttle and loom when a new shuttle is put in pays for itself in good cloth.

1. Level the race plate and box bottoms with a straightedge. Check all screws to see that none protrude above the top of the race plate.

2. Square the reed with a reed square, and line the reed and box back with a straightedge.

3. Check all boxes to see that they come even with the race plate on the change.

4. Cover binders with new leather, and shape them to hold the shuttle properly.

5. Size the shuttles with the shuttle gage, making certain that they are all the same size and weight. Then apply shuttle tallow.

6. Replace worn pickers, picker sticks, and bumpers.

7. Check Pitman arms. Remove play.

8. Check rockershaft bearings. Replace worn bearings.

9. Replace worn parallel blocks and heel straps. Parallel the pickers.

10. Measure the throw of the lay, and equalize it at both ends. Have the lay at the proper height under the magazine.

11. Check the loom on the filling change. See that the quill enters the shuttle properly.

12. Replace lug straps where necessary.

13. See that the shed is wide enough for the new shuttle.

14. Correct the picking time where necessary.

15. Start loom. Watch it closely until you are satisfied that it is running properly.

16. Report completion of the job to the supervisor.

17. Job checked by supervisor.

SHUTTLE LIFE. One mill has the second hand check loom adjustment, leather, pickers, parallels, rockershaft, bearings, swords, Pitman arms, protection rods, and frogs before the shuttle is issued. He checks again after the shuttle has been installed.

About once a week, a third check is made by the second hand of all the shuttles that have been put in that week. If evidence of unnecessary wear is found, the trouble is located and corrected. Shuttle life in this mill, on E-model looms, is 3,023 hr.

Fastening shuttle knurls back in place after they come out cannot be done very satisfactorily, most mills report. Several mills have tried roughing up the stem of the knurl with a chisel and driving it back into the shuttle. Usually, this practice resulted soon in a smash-up.

Shuttle dressing is used widely. Eight mills reported the use of some lubricant to make the shuttle smooth, last longer, and box more satisfactorily. Six mills apply tallow or a dressing compound composed chiefly of tallow, one uses a mixture of lard oil and tallow, and one is experimenting with a mixture of one part shellac and two parts spindle oil. One mill reported that it also applies a special dressing to binders to increase the life of binders and the shuttle.

SHELLAC AND OIL. The mixture of one part shellac and two parts spindle oil is applied to the shuttle after a rub down of the shuttle with emery cloth. The mixture has not been used long enough yet to determine whether or not it increases shuttle life.

Some trouble from the dressing sticking to the box leather was encountered. The leather became hard. However, the sticking apparently was caused by putting the shuttle in the loom before the dressing had sufficient time to dry. It was said that the mixture makes the shuttle very smooth and improves boxing on Monday mornings after week-end shutdowns.

Overhead loom beams have several advantages, but they also create problems, it was reported. One mill has an overhead beam on a 40-in. E-model loom and one on a 66-in. E-model loom. It uses 32-in. beam heads.

The advantages pointed out were:

1. More space for larger beams without increasing floor space.

2. Increased production because of longer-running warps.

(*Continued on page 190*)

Causes of Excessive Loom Shedding

Size

1. Starch and water not mixed thoroughly before steam is turned on.
2. Size not cooked long enough.
3. Size cooked with too little heat.
4. Too much starch or too much compound.
5. Insufficient heat in storage kettle.
6. Insufficient heat in size box.
7. Excessive blanket on the front squeeze roll.
8. Insufficient weight on squeeze roll.
9. Foaming in size box.
10. Poor size penetration.
11. Squeeze rolls out of line.

Yarn

1. Short-staple cotton.
2. Poor carding.
3. Poor spinning.
4. Excessive heat on slasher cylinders. (Size "cooked" instead of dried.)
5. Too many warp ends per inch.

Loom

1. Low weave-room humidity.
2. Excessive loom speed.
3. Worn heddles.
4. Bad reed.
5. Too much tension on warp.
6. Reed not set in the center of the lay.
7. Harnesses set too low or too high.
8. Harnesses not pulling evenly.
9. Harnesses not timed properly.
10. Whip roll set too low or too high.
11. Stop-motion stands not set properly with the whip roll.
12. Late or early picking.

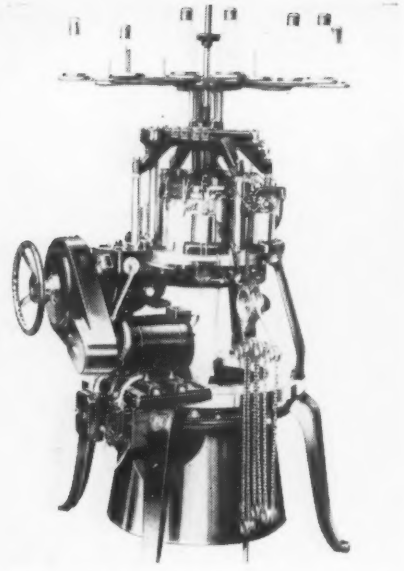


Fig. 1. RLG 7 Mellor-Bromley circular rib machine has eight feeds and two needle-selection units for production of patterned and shaped women's underwear.

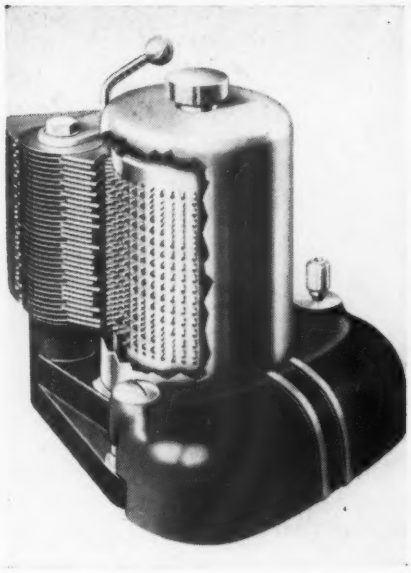


Fig. 2. Cutaway view of geometric-jacquard needle-selection unit for RLG circular rib machine shows peg drum and jack pressers.

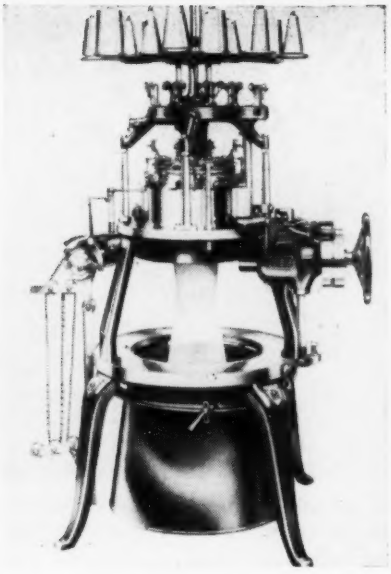


Fig. 3. Loop-transfer machine RLGT/2 is capable of more elaborate pattern work than the DLG7 and two types of rib in one garment.

CIRCULAR-RIB Machines Versatile for Women's Underwear

HIGHLIGHTS: *Vest and pantie sets produced in wide variety of patterns on 1x1-rib or 2x2-rib machine — Needle selectors aid patterning — Loop-transfer machine can knit 1x1 and 2x2 rib in same garment — Stitch length controlled*

By CHARLES R. CARTER, A.T.I.

THE SHAPED VEST AND PANTIES SET has become established during the last decade as probably the most important item in the range of women's underwear in England and its popularity has increased year by year.

The attractive and varied designs which can be knitted into these garments catch the eye of the feminine buyer and the shape already knitted there is permanent. Most figures can be fitted satisfactorily with a minimum number of sizes. However, a wide range of practical designs is obtainable on circular machines so that they are not likely to become outdated nor are the products likely to become outmoded.

PATTERN CONTROL. The Mellor-Bromley RLG series of machines is typical of those which have been specially designed to meet this demand for shaped vest and pantie sets, and to permit production of a wide range of exclusive designs. Fig. 1 shows the RLG 7 circular rib machine, designed with eight feeds and fitted with two patented geometric needle-selection units, permitting tuck-and-clear or tuck-and-miss stitch patterns to be produced. Two courses of the design are produced per revolution with separate selection of the cylinder needles for each course in accordance with the design. The effect is produced by needle selection at the first feed and maintained over the second and third feeds, while the fourth feed knits all needles. At all feeds, the dial needles knit continuously to produce the face of the fabric, which is inside the tube, and the cycle is repeated over the fifth to eighth feeds to complete the second course.

The geometric-jacquard needle-selection unit shown in Fig. 2, recently developed, is an improvement on the previously fitted disk unit, requires less space, and enables changing of patterns at a cost of only the time occupied in changing the arrangement of pegs in the drum. With 32 selection levels and 50 rows of holes round the selection drum, either freehand or geometric patterns of large areas without spiral effect can be obtained, and the reverse racking of the drum permits this scope to be increased. Situated under each needle in the same trick is a jack with butts corresponding to the 32 selection levels and an operating butt for raising the jack and needle to either tucking height or to clearing height, according to the cam setting. These butts may be broken off to leave one in 31 and arranged in V-formation round the cylinder, in which case the selection is made by the drum having pegs placed in each vertical selection row at positions corresponding to the miss stitches on a tuck-and-miss pattern. The pegs move their corresponding presser in the direction of the needle cylinder, so that all jacks having butts on those levels are depressed into the cylinder tricks and therefore pass behind, instead of over, the operating cam.

Thus, the 31 levels control a width

of 31 wales with individual needle control in this width and by reverse or mirror repeat this is increased to 31 + 29 = 60 wales. The depth of the geometric pattern thus obtained with forward racking will be 50 courses; and, as there are two units per machine, this is increased to 100 courses without repeating any single course. If reverse racking is employed, the depth may be increased considerably and in many different ways, also the drum may remain stationary for as many courses as required, and when required. The racking is controlled by the chain seen on the right of Fig. 1, which also allows the length, shape, and quality of the garment to be automatically controlled. Consequently the bust may have a different or modified pattern compared with that of the skirt by setting out the chain accordingly; three heights of main links are all that is required. The scope of the patterning is further increased by the freehand method, in which the design is produced on the needle jacks and the drum is used to control the operating levels only. In this case, the design width is limited only by the number of needles in the machine and the depth to 32 selections without repeating any single course over the two units; this method allows motifs to be produced on an otherwise plain ground.

MERITS OF NEEDLE SELECTOR. In considering the merits of any needle-selection unit, the desirable factors are: (1) area of pattern controlled adequate for requirements; (2) ease of accessibility; (3) ease of pattern changing at low cost. This unit is said to fulfill these requirements satisfactorily.

The RLG 7 machine produces garments in lxl rib throughout, with the previously mentioned stitch formations for the patterned areas of bust and skirt, while the RLG 8 produces similar garments in 2x2 rib. In both cases the stitch changes are automatic, with stitch length for the ribbed portions effectively controlled by a simple system comprising a ring with lever connections, seen on the upper part of the cylinder cambox Fig. 1.

The bulk of the medium-priced sets can be produced on these two machines; and garments may be satisfactorily made from wool, cotton, or rayon yarns or mixtures, in counts ranging from 20s to 30s worsted or their equivalent in other materials. Thus, both summer- and winter-weight garments may be knitted on the same equipment. This should keep the machines in full operation at all seasons.

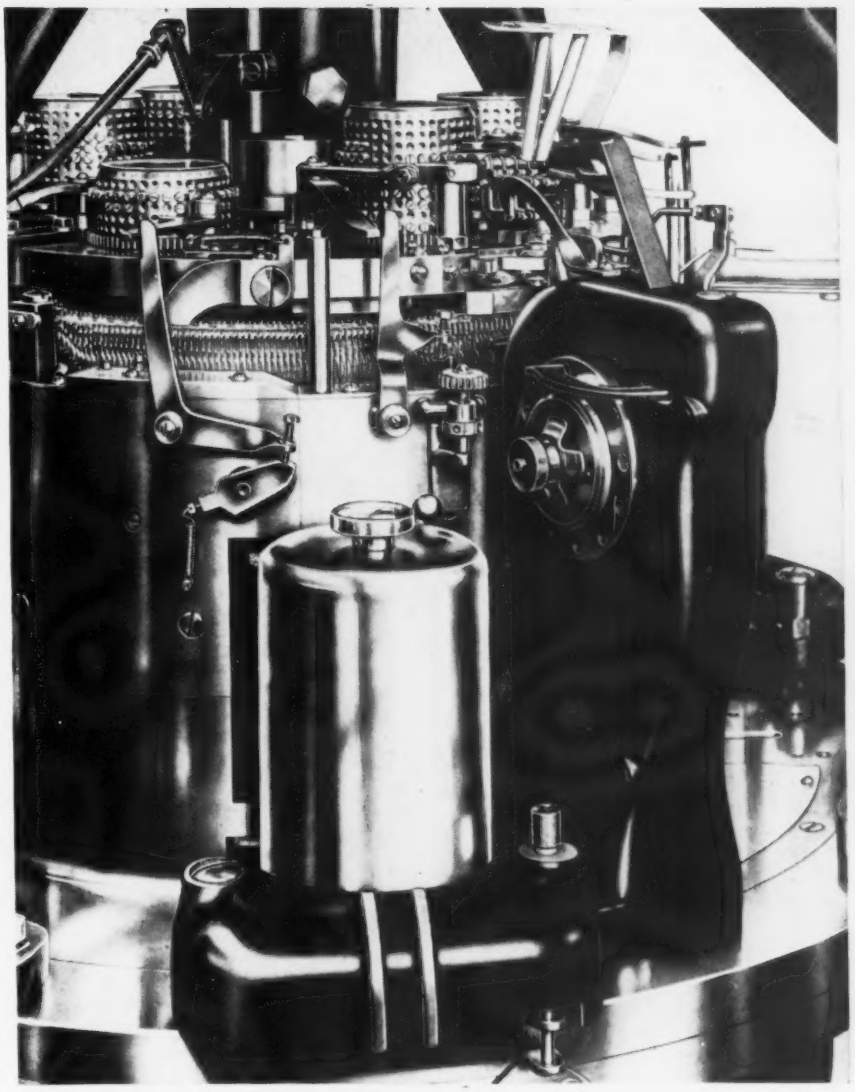


***Fig. 5. Knitting head** on RLGT machines contains striping mechanism (at right) and six drums (above) which control movement of dial and cylinder cams.*

COMBINATION RIB MACHINE. For the manufacturer who caters for a more exclusive garment of this type, the rib-transfer machine is available and Mellor Bromley has produced a circular machine for this work known as RLGT/2. This machine is illustrated in Fig. 3 and is designed with four feeds and two loop-transfer positions. It is consequently fitted with four geometric needle-selection units. Two of these control the transfer of loops from cylinder to dial needles and the other two select the cylinder needles to knit after the transfer. The arrangement is: feed 1 and 2 knit or miss on cylinder needles, transfer between feeds 2 and 3, selection for knitting or missing at feeds 3 and 4, and transfer between feeds 4 and 1. Consequently, units are situated at feeds 1 and 3 and the selection maintained over feeds 2 and 4. This permits openwork designs together with areas of reverse-side plain stitch on a 1x1 rib ground to be made at four courses per revolution of the machine.

To effect this loop transfer, a modified needle is used in all cylinder tricks, together with a loop expander;

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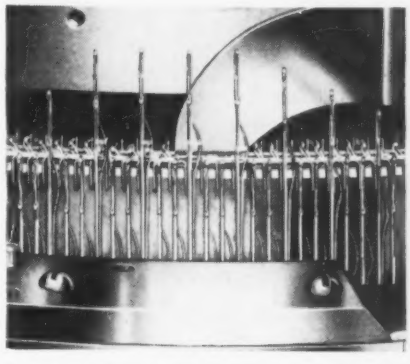

***Fig. 4. View of cylinder-to-dial transfer** on RLGT machines includes the whole transfer cycle from left to right.*

STOPS THE SPLATTER—ONCE AND FOR ALL

Suntac Oil Also Reduces Downtime, Protects Bearings and Cuts Oil Costs in Half

A mill scheduled to work 24 hours a day had to shut down twice a week to lubricate its 221 looms because the oil seeped out. Bearing failures were a continual threat. Furthermore, the oil splattered on the fabrics, with costly and troublesome results.

Two years ago, at the suggestion of a Sun Engineer, the mill changed to Suntac, an oil "Job Proved" in the textile industry. A marked difference was noted at once. The oil stayed in the bearings, protecting them—and stayed *off the cloth*. Downtime was cut in half, thus increasing production. With the splattering stopped, half as much oil was used—a substantial saving with so many looms.

Here is a case of a Sun Oil raising output, reducing maintenance and protecting machinery at the same time—even improving the quality of the product. This is typical of "Job Proved" Sun Oils the length and breadth of industry. What they are doing to make operations more profitable for others they can do for you. To get complete information about Sun textile lubricants and processing oils, call or write the nearest Sun Office.

SUN OIL COMPANY • *Philadelphia 3, Pa.*
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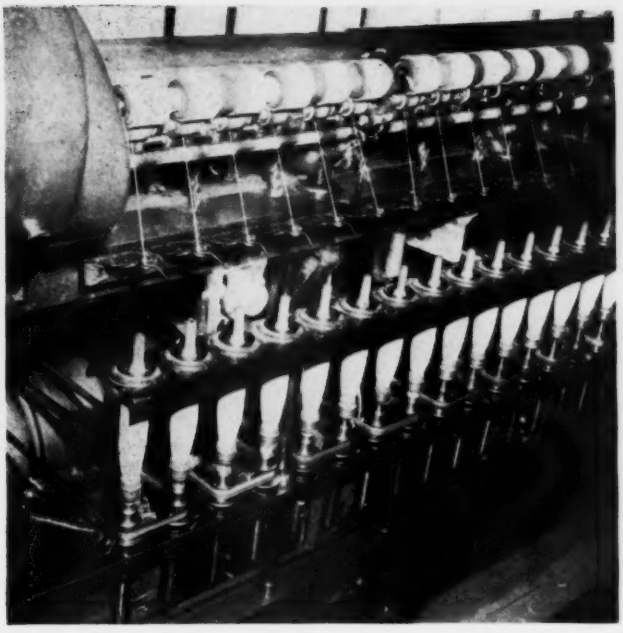
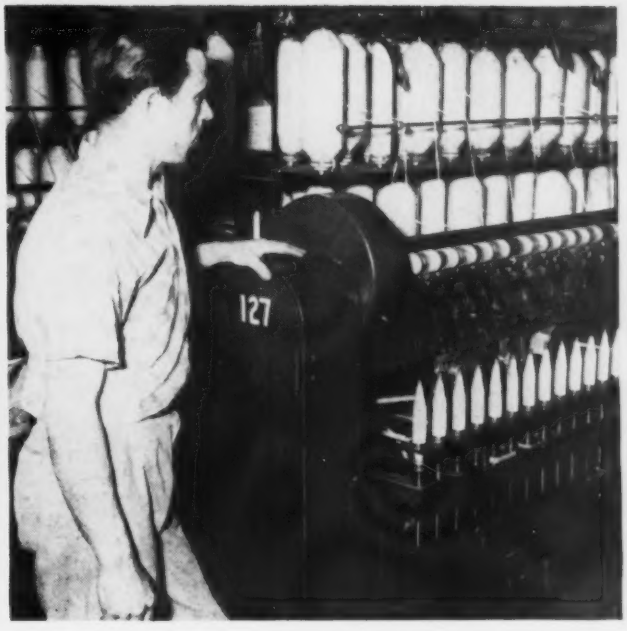
SUN PETROLEUM PRODUCTS SUNOCO

"JOB PROVED" IN EVERY INDUSTRY



***Main valve** of the Numo automatic control can be seen just over the ring rail of this frame.*

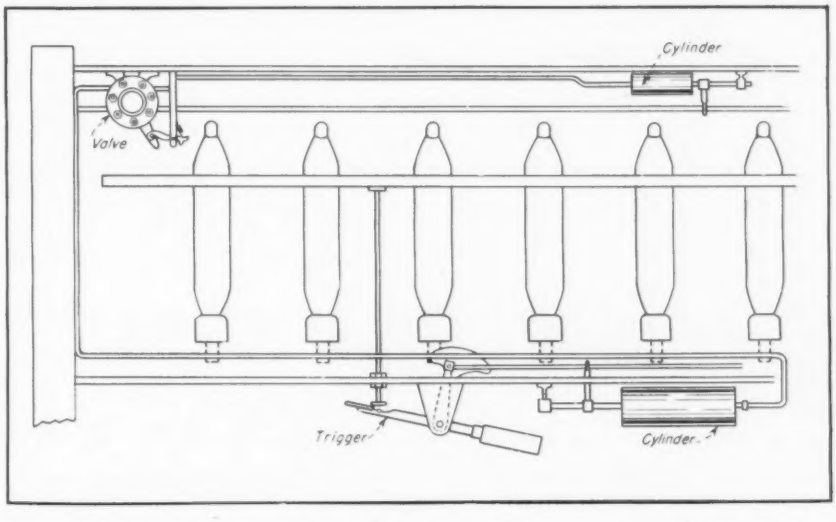


***Running down the rail** and stopping the frame are done automatically. Doffer watches the operation.*

SPINNING CONTROL
Cuts Labor and Waste

***HIGHLIGHTS:** Uniform spinning doffs obtained with automatic control—Beaumont Mfg. Co. reports saving of labor and waste—Device is best on filling frames, but warp installation pays for itself in 2½ to 3 yr.*

By P. M. THOMAS, *Associate Editor, TEXTILE WORLD*



***Automatic device** for motor-driven filling frame consists of valve and two cylinders. Trigger opens valve; compressed air and piston rods do the work.*

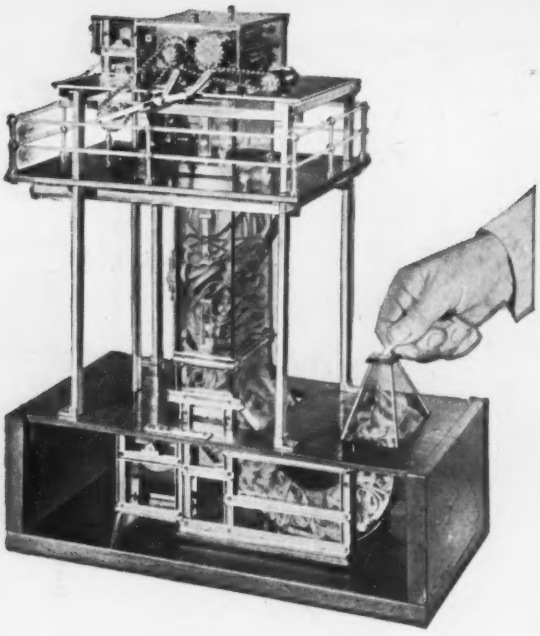
BATTERYHAND LABOR and bobbin-tail waste have been reduced at Beaumont Mfg. Co., Spartanburg, S. C., on filling yarn spun on frames equipped with automatic knock-offs. Uniformly filled bobbins from doff to doff and shorter yarn tails of uniform length account for the improvements in labor and waste.

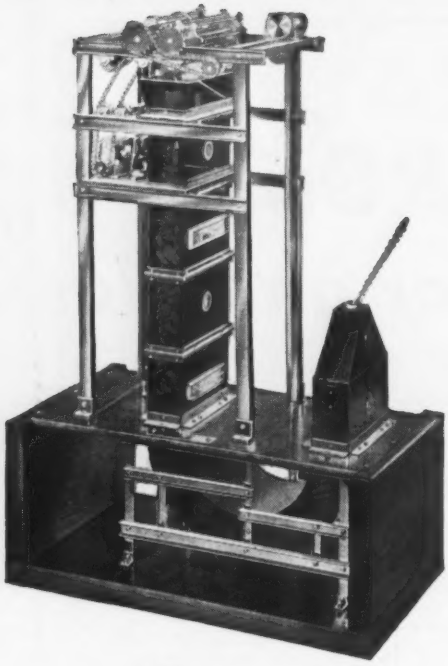
Other advantages reported include less feeler waste at the loom, elimination of run-over doffs, saving of spinner's time by making it unnecessary for her to be on hand to guard against a doff running over, saving of doffer's time by automatically pulling down the ring rail, and eliminating frame stoppage caused by "home-run" doffs.

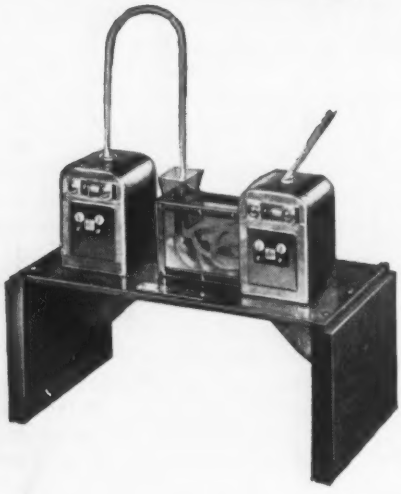
The automatic doff control, made by Numo Machine and Engineering Co., Inc., Charlotte, N. C., is basically a pneumatic device controlled through valves and actuating triggers. Compressed air from the mill's regular lines is used.

The knock-off consists of one or two valves, depending on the type of bobbin build; one or two cylinders, depending on the type of spinning-frame drive; and connecting tubing between

(Continued on page 188)







How to take the "guess" out of "J"-Box Bleaching

When a mill owner wants to know how a "J"-box bleaching range will perform, he doesn't have to guess. Butterworth has a scale-model "J"-box—one for the Du Pont process, one for the Becco process. There are folding and plaiting mechanisms, and cloth that can be pulled through to demonstrate operation. And there is a scale-model Saturator to show how caustic or peroxide is applied.

The precision that goes into the building of a scale-model "J"-box—½ inch equals 20 feet—is typical of the careful workmanship at Butterworth. When you buy a Butterworth Continuous Bleaching Range, you get more than machines. You get an experience unequalled in the Textile Industry—design skill backed by engineering evidence of profitable results.

If you need better bleaching, faster bleaching, more profitable bleaching, get the facts about Butterworth Continuous Bleaching Ranges today. We will prove our claims in your office or your plant with scale-models if you say the word.

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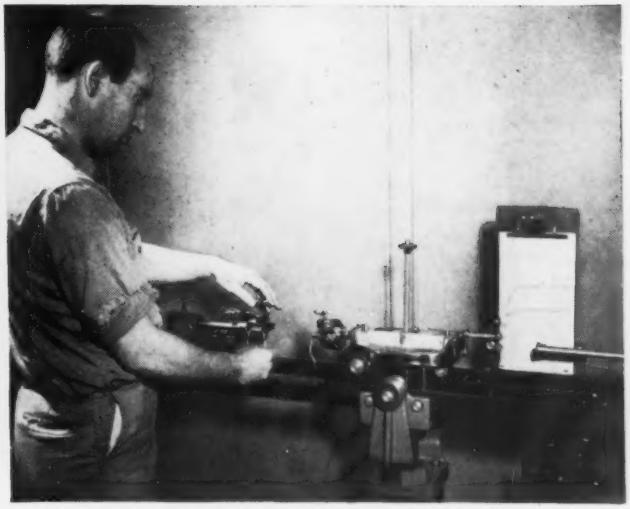
COLLOIDAL SILICA HERE . . . .

In worsted spinning, 0.5 to 2.0% of silica colloid is applied with the oil emulsion at the finisher gill box.



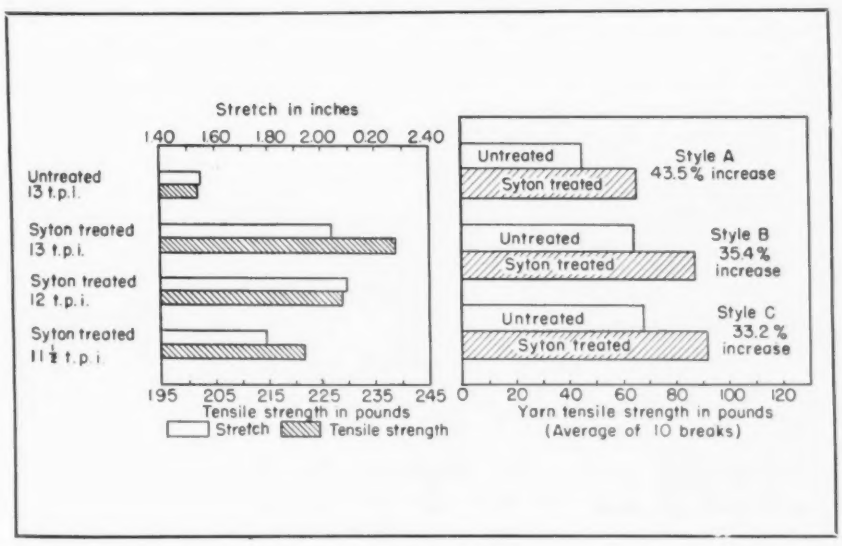
. . . . IMPROVES BREAKING STRENGTH HERE

The increased tensile strength of colloidal silica-treated yarn in comparison with untreated yarn is recorded on Scott tester.

COLLOIDAL SILICA Aids Woolen and Worsted Spinning

HIGHLIGHTS: *Yarn strength, fineness, and uniformity improved by use of 0.5 to 3.0% colloidal silica mixed with oil emulsion—Production raised and stoppage reduced—Silica easily applied and removed—Spinning limits of machinery more closely approached.*

By RUSSELL L. BROWN, *Professor of Textiles, Lowell Textile Institute*



***Stretch and tensile strength** of silica-colloid-treated yarns showed consistent improvement over untreated yarns.*

FINER, STRONGER, LOFTIER, and more uniform yarns are being spun in some woolen and worsted mills today through the use of colloidal silica. In addition, the yarns are being produced at a faster rate, using higher drafts, and with decreased static.

Colloidal silica is a milky-white liquid which is mixed with the usual oil emulsion applied to the stock blend. One silica colloid, Syton, was developed and is marketed by Monsanto Chemical Co. The success of colloidal silica apparently lies in its ability to reduce the tendency of the fibers to slide past one another in the drafting operation by increasing interfiber friction. This interfiber "drag" results in better control of draft, better fiber alignment, more uniform yarns, greater tensile and breaking strength.

Advantages gained are similar on both woolen and worsted yarns. At present, they are more pronounced and extensive on woolen yarns because of the fewer operations and the more advanced point of application in this system.

In the woolen system, maximum results are obtained by the addition of 2 to 3% of Syton to the weight of the stock at the woolen picker. The Syton mixes readily with the oil emulsion.

(Continued on page 206)

KEY FEATURES OF A COMPLETE STEEL SERVICE

Some types still short, but over-all stocks in 13 Ryerson plants are probably the nation's largest.

Prompt personal steel service on all orders, large or small, is a Ryerson tradition-

Accurate cutting to your order is assured by modern Ryerson equipment.

Over a Century of steel experience means more know-how applied to your steel problems.

You get quick delivery anywhere, because the network of Ryerson plants stretches from coast to coast.

PRINCIPAL PRODUCTS

BARS—carbon & alloy, hot rolled & cold finished

STRUCTURALS—channels, angles, I & H beams, etc.

PLATES—sheared & U. M., Inland 4-Way Floor Plate, etc.

SHEETS—hot & cold rolled, many types & coatings

TUBING—seamless & welded, mechanical & boiler tubes

STAINLESS—Allegheny metal sheets, plates, bars, tubes, pipe, etc.

REINFORCING—bars & accessories, wire mesh, etc.

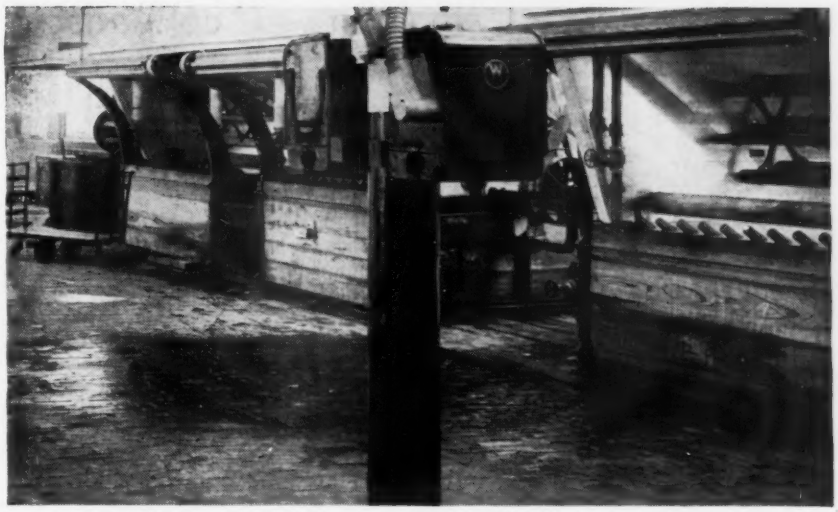
BABBITT—and phenolic laminated bearing material

MACHINERY & TOOLS—metal working & boiler shop

Added Ryerson service includes a chart to guide heat treating sent with alloy shipments.

RYERSON STEEL

Joseph T. Ryerson & Son, Inc. Plants: New York • Boston • Philadelphia • Detroit • Cincinnati Cleveland • Pittsburgh • Buffalo • Chicago • Milwaukee • St. Louis • Los Angeles • San Francisco



Wet floors and other dangerous working surfaces rate second as causes of accidents in finishing plants.

INJURY-RECORD COMPARISONS

Rate per Million Employee Hours Worked

Cotton processing	18.1
Wool processing	24.5
Rayon processing	29.4
Piece-goods dyeing (overall)	21.3
Yarn dyeing (overall)	15.9
Bleach, dye print, and finish	24.7
Rayon rate, this group	34.2
Cotton rate, this group	21.1
Bleach, dye, finish	19.7
Rayon rate, this group	27.7
Wool rate, this group	24.8
Cotton rate, this group	17.2
Flock and lacquer printing	19.4
Screen printing	18.3
Coating and proofing	16.7
Bleaching only	12.3
Piece-goods dye room	34.1
Print color shop	29.1
Print shop	28.5
Gray room	26.5
Yarn dyeing	26.3

SAFETY PROGRAM Can Cut Finishing Accidents

HIGHLIGHTS: *U. S. Dept. of Labor statistics give injury rates for dyeing and finishing as least favorable of textile-industry branches—Accident cost calculated as four times compensation and medical payments—Finishers burdened by $9,000,000 in 1945—Many means available to increase safety.*

By FRANK S. McELROY * and GEORGE R. McCORMACK *

IN EACH OF THE 12 yr. for which the Bureau of Labor Statistics has compiled injury rates for textile dyeing and finishing, this branch has had one of the least favorable accident records among the divisions of textile manufacturing. In 1936, the injury-frequency rate for dyeing and finishing was 13.9 disabling injuries[1] for every million employee-hours worked. By comparison with the all-manufacturing average of 16.6, this was not a particularly high rate. It was, however, well above the average of 8.8 for all textile manufacturing. In 1946, dyeing-and-finishing rate had risen to 21.7 all-manufacturing to 19.9, and all-textile to 16.0

Actual employment losses resulting from disabling injuries experienced by dyeing and finishing workers amounted to at least 72,000 man-days during 1945. On the basis of standard time charges for deaths and permanent impairments, it is estimated that the future economic loss accruing from the more serious injuries will eventually amount to at least 265,000 man-days. The total employment loss, therefore, will be equivalent to over 337,000 man-days of work. Measured in terms of the average earnings of dyeing and finishing workers in 1945, this represents a wage value of nearly $2,500,000.

COST OF ACCIDENTS. The employer's share in this $2,500,000 wage loss, which he pays in the form of insurance premiums or as direct compensation payments, represents only a part of the actual costs which must be borne as a result of these injuries and the accidents which produced them. There must be added the payments for medical and hospital care for the injured workers and the many indirect costs, such as damaged materials or equipment, lost production, and supervisory time spent caring for the injured or reorganizing operations after the accident.

Studies by H. W. Heinrich[2] have indicated that generally the indirect costs of injury-producing accidents average four times the direct cost of compensation payments plus hospital and medical payments. Based on this ratio, indirect costs associated with injuries in dyeing and finishing during 1945 amounted to at least $6,000,000 and may have been as high as $8,0000,000. The total cost of injury-producing accidents in dyeing and finishing operations during 1945, therefore, probably ranged between $8,000,000 and $10,000,000.

These broad industry figures demonstrate the existence of a safety problem in the dyeing and finishing branch and point to the need for an intensified safety program. The successful development of a safety program, however, requires detailed information as to

(*Continued on page 222*)

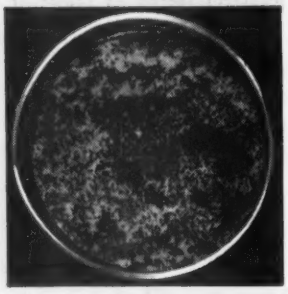
* Members of Industrial Hazards Branch of Bureau of Labor Statistics, Dept. of Labor, Washington, D. C. Article is abstract of report in July, 1948, issue of "Monthly Labor Review."

[1] A disabling injury is one which results in death or permanent physical impairment, or renders the injured person unable to work at a regularly established job throughout the hours corresponding to his regular shift on any day after the day of injury.

[2] Industrial Accident Prevention, by H. W. Heinrich, New York, McGraw-Hill Book Co., 1941.

It's your decision...

profit or loss



DOWICIDES make the difference!

You can keep bacteria and fungi out of your operations—minimize the losses they cause —with the Dowicides.

In the textile industry, these efficient control agents offer positive protection against fungi and bacteria through the several stages of processing and finishing. Sizing solutions and soluble oil emulsions are vulnerable to bacterial attack, particularly when materials are held in solution for extended periods of time. The use of the proper Dowicide prevents decomposition of these solutions and protects the sizing while in storage.

If mold and bacteria are cutting *your* profits, get in touch with the nearest Dow Office. We welcome the opportunity to discuss your problems with you.

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Dow Chemical of Canada, Limited, Toronto, Canada

CHEMICAL COMMENTS

DOW PRODUCES ESSENTIAL AMINO ACIDS SYNTHETICALLY

Science over many years has discovered the real body builders—the amino acids, which make up protein. Dow research has found a way to produce all the essential amino acids *synthetically*. Two of the acids, methionine and tryptophan, are in volume production. Others are available in sufficient quantities to meet present experimental demands of the pharmaceutical and animal feed industries. Recently Dow announced substantial price reductions on quantity orders of methionine and tryptophan. This was in accordance with the policy of this company to expand production and reduce prices as rapidly as possible on the essential amino acids in order that their benefits may be more widely available in the fields of nutrition and chemotherapy.

2-4 DOW WEED KILLER, FORMULA 40 IDEAL FOR LOW VOLUME APPLICATION

2-4 Dow Weed Killer, Formula 40 (an alkanolamine salt formulation) is bad news for weeds in turf, pastures, corn, flax, rice, sugar cane and small grains. It mixes readily with water in any proportion and can be used effectively in very low volume applications, in 5 to 20 gallons of water per acre by ground equipment or 1 to 5 gallons by airplane. Control of many common annual and perennial weeds is achieved through its use.

NEW "TOOL" FOR THE PERFUME BLENDER

Creative perfumers are finding Sylvenol, Dow's powerful Aromatic Specialty, capable of countless interesting effects in modern and oriental perfumes. Sylvenol is a viscous, amber-colored liquid that has an odor definitely of the precious wood type, imitative of sandalwood, cedarwood, patchouli and vetiver. Besides its woody character, Sylvenol reminds one of orris and high grade ionones suggesting its use in compounds to which it will impart intensity and life.

Additional information about any of these products is available on request.

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Scenes from film contrast "hernia method" with modern method of handling materials.

MATERIALS HANDLING
Promoted by GE Program

HIGHLIGHTS: *New edition of "More Power to America" series features receiving, warehousing, shipping—Color film and manual available — Rising costs emphasize need for mechanization.*

INADEQUATE MATERIALS-HANDLING techniques result in high production costs; most mills do not realize how modern handling methods can cut costs, increase production, reduce inventories, and relieve manpower shortages. That statement made by S. W. Corbin of General Electric's Resale Industries Division was meant to apply to all industry, but is especially true in the textile.

To assist in determining materials-handling problems and in solving them, GE has this month released a color film and literature on materials handling. It is entitled "Materials Handling in Receiving, Warehousing, and Shipping" and is another unit in the GE *More Power to America* series.

"There is still far too much use being made of the old 'hernia method' of moving materials from one place to another," said F. W. McChesney, of the MPA committee of GE in commenting on the new program. "That may have been effective 30 or 40 yr. ago, but today, with the cost of labor what it is and the necessity of meeting tremendous production schedules, it isn't only out of date. It's bankruptcy, in many cases, not to change."

Notwithstanding the fact that electric motors furnish about 86% of today's industrial horsepower, American industry is less than 50% electrified in terms of jobs that electricity can do most efficiently, McChesney pointed out.

The new materials-handling program features a sound, Kodacolor motion picture and a manual containing extensive descriptive data. The picture illustrates all types of materials handling equipment and shows installations in which each is best used. The manual contains data on engineering problems, power distribution, and the selection of equipment connected with materials handling.

Both picture and manual were prepared with the assistance and cooperation of trade associations, equipment manufacturers, and consultants.

***Manual** on materials handling is complete text of almost 100 pages. Cost is $1.*

just read these exclusives:

1. "Durene" absorbs and evaporates perspiration quickly and efficiently. This provides extra comfort and cleanliness all ways, all year 'round.
2. Durene yarn is stronger than ordinary cotton yarns. Durability and long life are good reasons why your customers look for the "Durene" label.
3. "Durene," knitted or woven, is smooth and even. Soft permanent lustre and clear colors are selling points.. You can see and feel the extra quality of "Durene."
4. Durene yarn is even stronger wet than dry.. Garments of "Durene" are easy to wash and dry quickly.. No special care or handling is required.

Just what is Durene*,...and why is it so consistently attractive, economical to run, and so very dependable?

Durene is multi-ply mercerized cotton yarn, produced only under controlled standards that assure quality. The trademark Durene* is for use *only* on merchandise of excellent quality and craftsmanship which conform to the tests of a qualified testing laboratory. In fact, frequent tests of sample yarns and merchandise are made for the Durene Association of America by the Better Fabrics Bureau (official N. R. D. G. A. laboratory).

All of the advantages of Durene add greatly to the *sales appeal* of women's, men's and children's knitted garments—from gloves to draperies.

Made of Durene* multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash
* Reg. U. S. Pat. Off. © 1946

NEOPHIL* Overtwist Reg. U. S. Pat. Off.

* Neophil, the Nylon Seaming and Looping Thread for Nylon Full-Fashioned Hosiery, made by the Premier Thread Co., Pawtucket, R. I.

NATURAL, BLEACHED, DYED AND MERCERIZED YARNS

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AMERICA'S OLDEST MERCERIZERS
Durene*
* REG. U. S. PAT. OFF.

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Representatives in principal textile centers of the world

FILLING HOLDER
Influences Loom Stoppage

HIGHLIGHTS: *Stops on first pick may be caused by loose yarn—Automatic holder operates from loom vibration—Rotors should be set for weight of yarn.*

By EUGENE P. SCHREMP

IN ORDER TO PREVENT a loom from stopping on the first pick of a filling change, some provision must be made to keep the filling ends from becoming slack as they drop down at each transfer. In addition to stopping the loom, a slack end may also be the cause of the filling breaking on the doff. This is especially true when weaving fine filling of low breaking strength.

The sketch illustrates an automatic filling-end holder which uses the vibrations of a running loom to turn two gear rotors. The gears, in turning, take up the slack in the filling end as the bobbin drops at each transfer. The slack in the filling is caused by the fact that there is a greater distance from the filling holder to the top of the magazine than to the bottom.

Older looms are equipped with a solid filling arm which would not take up the slack; weavers tried to eliminate slack filling by tying the loose ends into a ball which would hang down and take up some of the slack. With an automatic-type holder, it is only necessary for the weaver or battery hand to lay the loose ends between the rotor gears.

To install or adjust the holder arm, have the lay at front center. Adjust the set screws in the holder on the magazine tie rod so that the top of the holder is centered with the center of the magazine and is about ½ in. above the plain lay-end top.

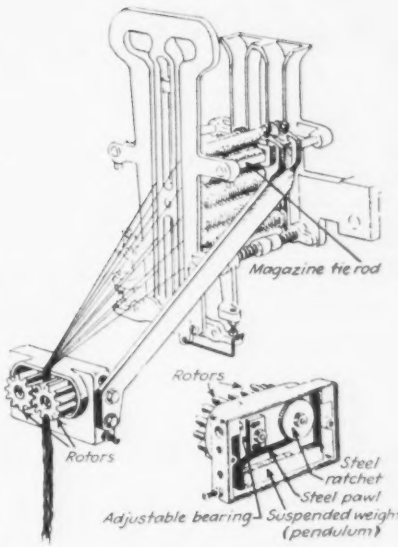
ARM ADJUSTMENT. The inside of the arm holder is tapered at each end so that, by loosening one set screw and tightening the other, the arm can be raised or lowered. When making this adjustment, a small wrench should be used on these set screws because too much pressure will break the top half of the casting. Position of the filling arm is very important in regards to proper loom efficiency. An improperly adjusted holder may cause the filling to break or the loom to stop at each transfer.

If the holder is in a position which allows the filling to catch on any part of the lay when it is moving, the filling is certain to break. If the holder is too high, the filling may slide out from under the filling-stop-motion wire and cause the loom to stop at the first pick after the transfer. This sort of trouble is more noticeable when weaving fine, tender worsted filling.

Proper position of the filling holder to eliminate this trouble can sometimes be ascertained by holding loose filling ends by hand in different positions when the loom is transferring a full bobbin. When a position is found where the loom will transfer without stopping, it is an easy matter to adjust the filling holder to this position.

Rotor gears must be adjusted when changing from fine to coarse filling. Two factors must be considered: speed of rotors, and space between rotor teeth. Coarse yarn will not run so long in the shuttle as fine filling and will, therefore, drop from the top of the magazine more quickly than fine filling. In order to take up the slack yarn, the gears must turn faster.

SWING OF PENDULUM. Speed of rotors is controlled by the number of times the pendulum vibrates and by the length of the swing. A short swing will engage only a few teeth of the ratchet gear, causing a slow speed; a long swing will engage more teeth and, consequently, will increase the speed of the rotors. To govern the speed of the rotors, adjust the set screw which acts as a stop for the pendulum. Turning the screw in, i.e., nearer the pendulum, reduces the speed for fine filling; loosening the screw will decrease the speed for coarse filling.



Automatic filling-end holder attaches to magazine and uses vibration of loom to actuate rotors by means of a pendulum which swings with loom movement.

In order to change the space between rotors, the back cover must be removed. Loosen the two set screws in the adjustable bearing and space the rotors so that the filling yarn will slip very slightly through the teeth of the rotors. For fine filling, set the rotors closer together; and, for coarse filling, widen the space. All moving parts should be lubricated with oil, with the exception of the ratchet gear which should be covered with soft gear grease.

Filling ends should hang down at least 24 in. below the rotors so the filling can slip slightly and thus prevent broken ends at time of transfer. If rotors do not turn, check for loose ends of filling in the back of rotors. The steel ratchet pawl sometimes wears where it contacts the ratchet gears, which prevents the gears from turning. To correct this trouble remove cover and replace the worn pawl.

kier boiling...
scouring...
boiling off

Photo courtesy of Pepperell Mfg. Co.

In handling wool . . . cotton . . . or silk, the efficiency of your scouring or boiling operations depends mainly on the quality of the chemicals you use. Whether your process calls for Trisodium Phosphate, Tetrasodium Pyrophosphate, Sodium Metasilicate, or Sodium Silicate, you can be sure of your selection if you always—

SPECIFY "GENERAL CHEMICAL"

Select Your Basic Textile Chemicals from these General Chemical Products

- Aqua Ammonia
- Acetic Acid
- Hydrofluoric Acid
- Muriatic Acid
- Sulfuric Acid
- Epsom Salt
- Glauber's Salt
- Sodium Bifluoride
- Sodium Bisulfite, Anhydrous
- Sodium Hyposulfite
- Sodium Metasilicate
- Sodium Silicate
- Disodium Phosphate, Anhydrous
- Tetrasodium Pyrophosphate
- Trisodium Phosphate
- Sodium Sulfide
- Oxalic Acid
- Chrome Alum
- Ferric Sulfate *(Iron Copperas Nitrate)*
- Sodium Sulfite, Anhydrous
- Nitre Cake *(Sodium Bisulfate)*
- Nitric Acid
- Mixed Acid
- Aluminum Sulfate
- Lead Acetate
- Aluminum Chloride, Solution

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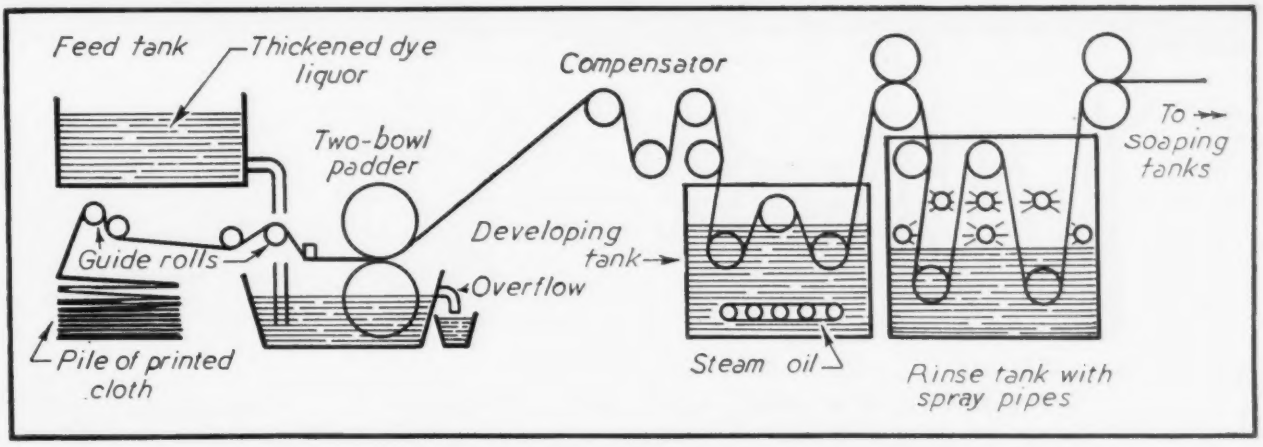

***Two-bowl-pad** installation for resist printing under indigosols is shown diagramatically in this sketch.*

Fast-Color RESIST PRINTS From Indigosol Grounds

***HIGHLIGHTS:** Seven advantages claimed for use—For best white effects resist paste is printed before padding—Danger in using hygroscopic agents —After printing or steaming, dry thoroughly.*

By T. N. PATRICK

THE PRODUCTION of white and colored patterns on colored grounds has always been one of the desirable objectives of the textile printer.

In early days, neither ground shades nor print colors were very fast. Today, fast colored and white resists on fast-dyed grounds in a wide range of shade and coloring are practicable and fairly common, with grounds and print colors conforming to the highest fastness specifications.

The indigosol fast-color resists became possible on the introduction of the indigosol range of dyestuffs. They are water-soluble derivatives of their opposite vat dyes, being, in fact, sulphuric-acid leuco-ester salts of the vat dyes from which they are derived. The fixation of the dyestuff on the fiber takes place by means of oxidation treatments after the dyestuff has been applied to the fiber from aqueous baths, or from thickened aqueous solutions in the case of textile printing or padding processes.

The most typical oxidation treatment is that which makes use of sodium nitrite and sulphuric acid. The nitrite is added to the dyebath or print paste, and oxidation takes place by passage of the dyed or printed goods through a bath of hot, dilute sulphuric acid 1:50 at 160° F. The developing bath may also contain 3 lb. of urea crystals per 100 gal. liquor to neutralize the effect of nitrous acid fumes, especially where ventilation is bad. Oxidation is brought about by the decomposition of the nitrous acid into nitric oxide, oxygen, and water, according to the equation:

$$4\ HNO_2 = 4\ NO + O_2 + 2\ H_2O$$

The advantages of this class of dyestuffs for ground shades are: Fast-colored grounds in a large variety of shades are possible; the impregnation or padding method of dyeing saves time and steam; fast-color resists are made possible; white effects are possible on fast-color grounds; there is no danger of "facing" in printing; the padding process with resist salt prior to printing is eliminated, as is necessary when using direct dyes for grounds; and very vigorous soaping treatments for clearing up white resist effects can be given.

WHITE RESIST PASTE

Glue—gum thickening.

4 pt. crystal gum thickening (8 lb. per gal.)

4 pt. glue size (2 lb. per gal.)

5 oz. urea crystals. Bulk to 1 gal.

WHITE RESIST 1

5 pints glue—gum thickening

3 lb. carbonate of soda

8 oz. sodium-sulphoxylate-formaldehyde

8 oz. Leucotrope W Cone. Heat all till dissolved and add

16 oz. titanium dioxide.

Bulk to 1 gal.

***Print-paste** ingredients can be varied from those given here. Examples are considered starting points.*

RESIST-PRINT PASTES. The resist-print pastes, both colored and white, act in two ways, chemical and mechanical. In the first instance, substances are added to the print paste which have an opposite chemical reaction to that required for the fixation of the indigosol ground.

For colored resists with vat dyestuffs, for instance, the reducing agent already present—as well as the alkali—perform this function without any further chemical additions. The reducing agent is sodium-sulphoxylate-formaldehyde, and the alkali is generally carbonate of potash. Carbonate of soda and sodium hydroxide are also used with certain vat dyestuffs. The mechanical effect of the resist paste is aided by the thickening itself, which for the purpose should contain the highest possible percentage of solids. This means that gums should be used in preference to pure starches where possible; and other additions should

(Continued on page 210)

SUCCESS
STORIES
in Playclothes
with Fabrics
containing

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SYNTHETIC STAPLE FIBER

Celanese* Lanese contributes these distinct advantages to modern sportswear fabrics . . . a high degree of wrinkle-resistance, shape retention, easy cleanability and quick-drying facility.

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Ten Methods to Combat High Temperatures

1. **Salt tablets** adjacent to drinking fountains can be provided, or a 0.1% salt solution of drinking water can be supplied.

2. **Cooling air motion** to the extent of 200 fpm. will drop "effective temperature" 1° to 2° F. compared to still air. Velocities up to 500 fpm. have been used.

3. **Exhaust ventilation** can reduce bad effect of heat if "effective temperature" is 84° F. or lower.

4. **Prevent re-radiation** when heat is confined to small areas. Exhaust hoods are recommended.

5. **Supply of fresh air** can be introduced in many places where exhaust hoods or other heat-control means are impracticable. Water sprays or evaporative humidification will cool the air.

6. **Reduce radiant heat** by such means as baffles.

7. **Enclose humid processes** when practicable. High moisture content in the air is, of course, undesirable in hot areas.

8. **Insulate hot surfaces** wherever possible, such as the outside of dryers.

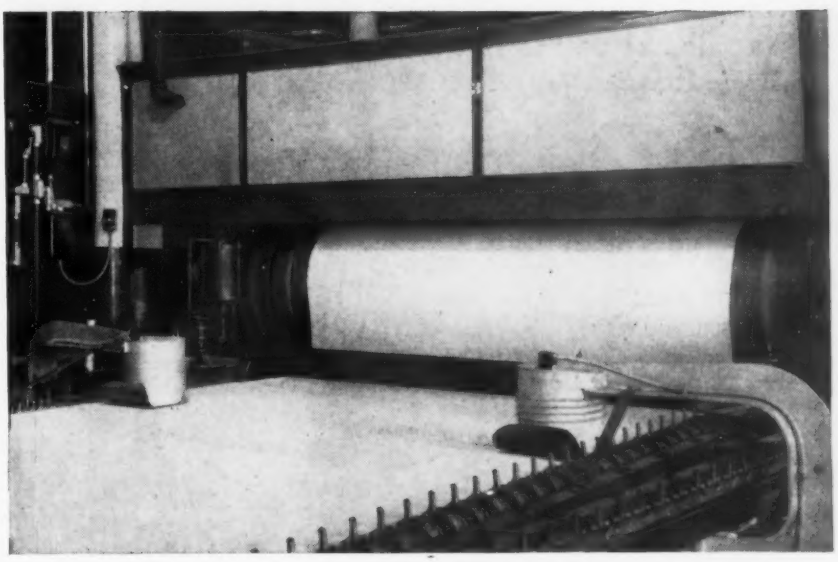
9. **Adjust working hours,** when possible, or give time off during hottest part of the day when temperature exceeds 90° F.

10. **Water sprayed on roof** can reduce temperature of air near ceilings.

Ten Ways Given to Combat HEAT EXHAUSTION

HIGHLIGHTS: *Wet processes have high proportion of excess "effective" heat — Two types of exhaustion found—Use of salt believed advantageous chiefly because of more water being drunk.*

By Dr. W. SCHWEISHEIMER



Hoods over hot processes constitute one means of controlling heat.

EXCESSIVE TEMPERATURE conditions have long been considered hazardous to health and, therefore, a concern of industrial hygiene. Some years ago Prof. C. P. Yaglous, of Harvard University, developed an "effective-temperature index" which combines the influences of temperature, humidity, and air motion. Recently a study of working conditions was made by John B. Skinner and W. M. Pierce, Boston, Mass., in a number of dye plants where hot processes are employed during the summer months.

It was shown that in most "dry" processes, the effective temperature did not exceed the permissible limit of 86° F. In the case of wet processes, however, only in one out of twelve studies were conditions reported acceptable.

Of the numerous methods suggested for combating high temperatures and their ill effects, ten have been encountered by Skinner and Pierce and are considered useful. They are shown in the accompanying tabulation.

TWO TYPES New observations (made in southern Iraq on British army personnel by Ladell, Waterlow, and Hudson) give evidence that there are two types of heat exhaustion.

Type 1 heat exhaustion was seen mainly in the first half of the summer. Vomiting and cramps were common. Victims were pale, sweat profusely, and had a lack of salt and water. Replacement of salt and water was the most efficient treatment.

Type 2, seen only in the second half of the summer, was among men who had already come through the hottest weather unscathed. Their sweating was insufficient, the skin showed prickly heat. For those men, a few days in a cooler climate were recommended after eight weeks' continuous exposure to extreme heat conditions.

For industrial workers, a parallel may be drawn in that heat exhaustion occurs in persons who habitually secrete sweat containing a much higher concentration of salt than the

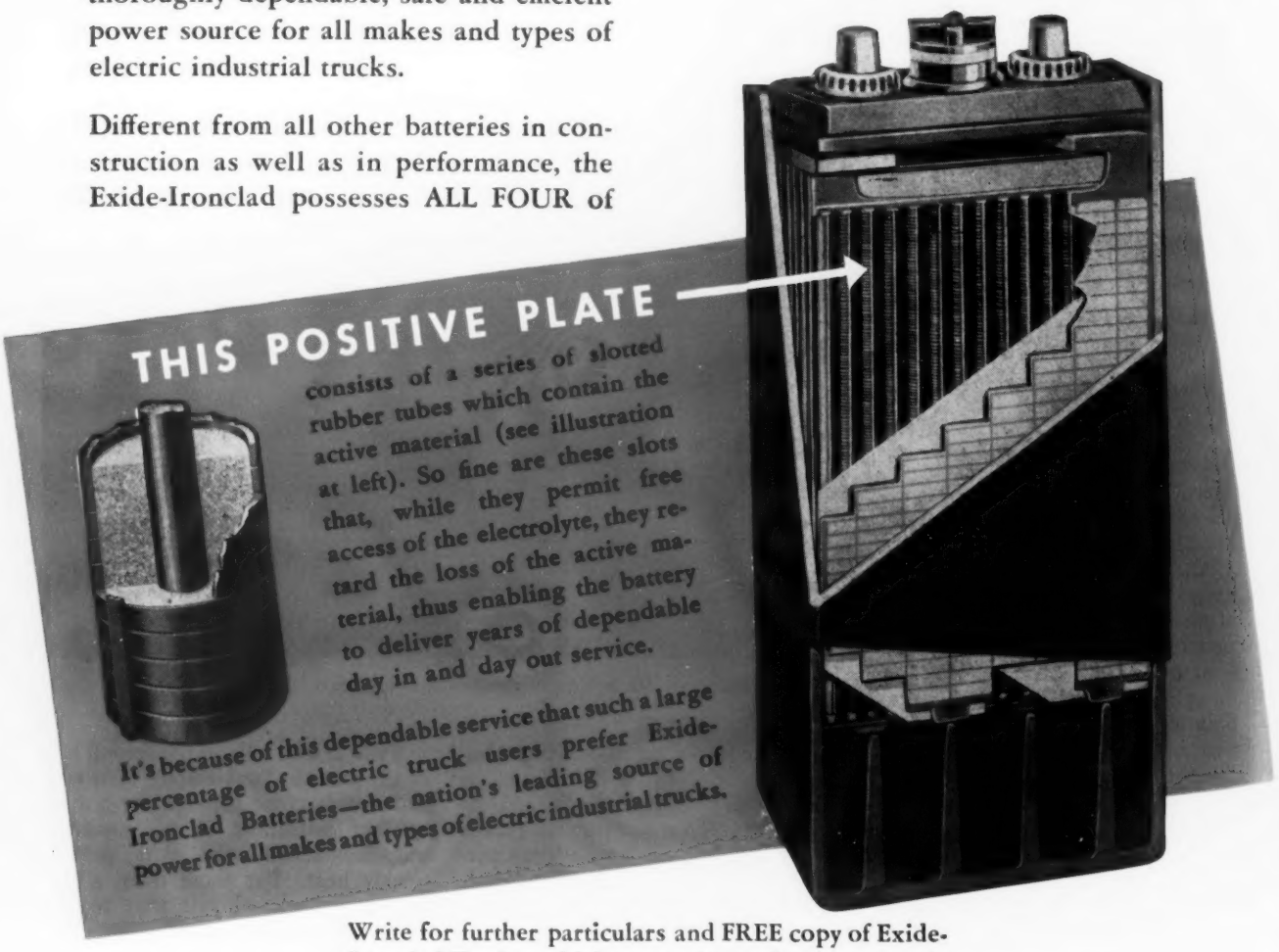
(*Continued on page 220*)

USERS EXPRESS PREFERENCE FOR Exide IRONCLAD BATTERIES

IN a recent national survey made by a leading industrial publication, 81.1% of electric industrial truck users expressed a preference for Exide-Ironclad Batteries.

Such overwhelming preference for the Exide-Ironclad Battery is based upon user experience. This unique battery has, during the past 35 years, proved itself to be a thoroughly dependable, safe and efficient power source for all makes and types of electric industrial trucks.

Different from all other batteries in construction as well as in performance, the Exide-Ironclad possesses ALL FOUR of the essential characteristics demanded of a battery for electric industrial truck service—(1) high power ability, (2) high efficiency, (3) great ruggedness, and (4) long life. These characteristics are due to the special construction of the Exide-Ironclad Battery, especially its rugged, tubular positive plate.


THIS POSITIVE PLATE
consists of a series of slotted rubber tubes which contain the active material (see illustration at left). So fine are these slots that, while they permit free access of the electrolyte, they retard the loss of the active material, thus enabling the battery to deliver years of dependable day in and day out service.
It's because of this dependable service that such a large percentage of electric truck users prefer Exide-Ironclad Batteries—the nation's leading source of power for all makes and types of electric industrial trucks.

Write for further particulars and FREE copy of Exide-Ironclad Topics, which covers latest developments in material handling and shows actual case histories.

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A working knowledge of the calculator is gained by every student as part of one textile course.

TEXTILE COURSES Revised At North Carolina State

HIGHLIGHTS: *New four-year curricula permit election of options—Increased emphasis placed on synthetics—Courses in instrumentation, chemical testing of fibers, knitting mechanics, colloid chemistry added—Yarn manufacture to be taught functionally.*

By ROBERT FREEMAN

REALIZING that educational curricula must constantly be examined and revised to follow trends in an advancing industry, the School of Textiles, North Carolina State College, plans several changes in its program which will become effective in September, 1948. The revised program is designed to improve the school's effort to provide students with as broad and thorough a textile background as possible.

The new arrangement provides for two basic curricula: Textile Manufacturing and Textile Chemistry and Dyeing. Students under the Manufacturing curriculum will follow the same course, with minor exceptions, until their senior year. At that time they may select an "option" in that branch of the textile industry which interests them most, to be taken in addition to prescribed senior-year courses. It was reasoned that by the time the student reached his senior year, he would have his sights set for the future and would apply himself more conscientiously to his specialty than if the courses were distributed over his sophomore, junior, and senior years. Thus, the student will have three years of training in all branches of textile manufacturing to serve as the foundation for his specialized courses in the fourth year.

One of six options for the Manufacturing seniors may be chosen: general textiles, synthetics, yarn manufacturing, textile management, knitting, and weaving and designing. A wool option is contemplated when the new wings are completed and American worsted-system machinery is purchased to supplement the woolen-system machinery already on hand.

Because of the highly specialized nature of the Textile Chemistry and Dyeing curriculum, it was necessary to set up an almost completely separate program, after the freshman year, for students majoring in this field. Dyeing majors will continue to take courses in the other departments of the school so that they will have an over-all understanding of the manufacturing processes.

A full array of synthetics courses will be offered to students for the first time. The Fiber-Quality course required of juniors will serve, in part, as a general introduction to the study of synthetics, giving the student an understanding of the differences among the various synthetic fibers, their manufacture, packaging, and uses. This will be followed by other courses in the Synthetics Option to deal with such related topics as storage and handling of synthetic yarns, preparation for weaving, inspection and grading of fabrics, and fabric styling and merchandising.

Textile Testing and Microscopy will be coordinated and supplemented by a course in Chemical Testing of Textiles. As a unit, these courses will

(*Continued on page 218*)

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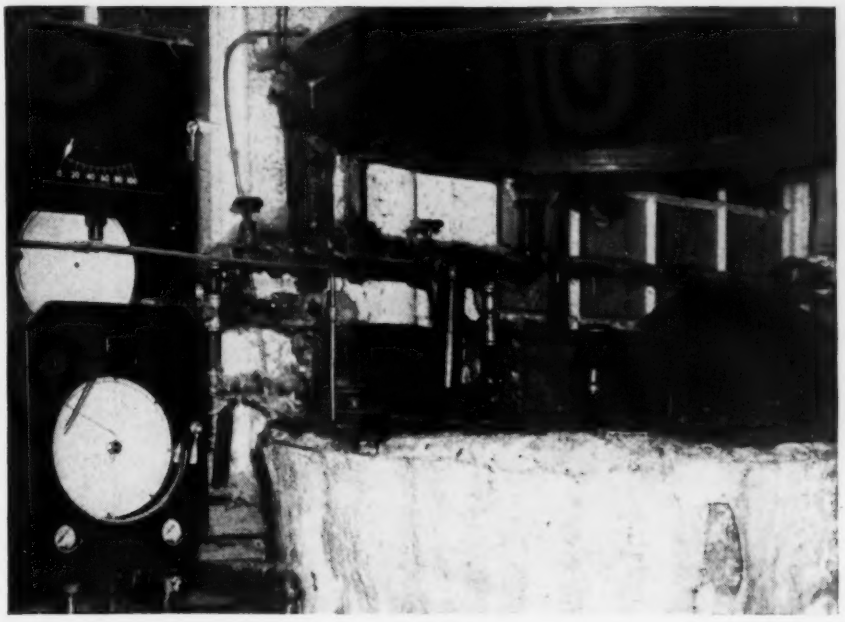
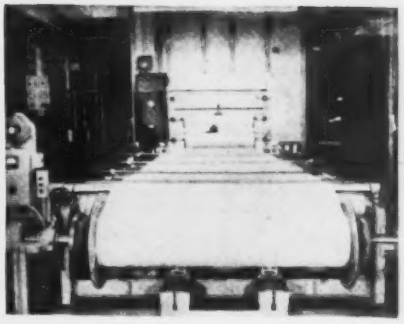




Hot-air slasher is credited with drying 1,000 lb. of yarn per hour.

Accurate controls for cooking and storing size, for temperature and level of size in the size box, and for uniform drying of the warp yarn are necessary complements of variable-speed drives for greatest efficiency.

SLASHING PRACTICES
Studied by Alabama Men

HIGHLIGHTS: *Better warps result from machine and technique changes, Alabama mill men report—Variable-speed drives and controls increase yarn on beam 10% at one mill—Size viscosity is now measured and maintained.*

OPERATING DATA on slashing and weaving were given at the spring meeting of the Alabama Textile Operating Executives, held recently at Auburn, Ala. Six questions on slashing were discussed under the chairmanship of T. S. Harris, general superintendent, Russell Mfg. Co., Alexander City. The weaving panel, which also considered six questions, was led by C. H. Moody, superintendent, Dwight Mfg. Co., Alabama City.

A report of the slashing session is presented here. A similar report on the weaving session appears on page 116 of this issue.

The first question on slashing asked for experience with synthetic covers for squeeze rolls. Seven mills answered this question. The experience given by most of them was that this type of squeeze-roll cover works more satisfactorily on the back roll than on the front.

One mill reported that it has a front and a back roll cover that have been running for about two years. No trouble has been experienced with the back roll, but it is now in need of a new cover. The front-roll was covered twice, and the synthetic cover is not in use now. On the front roll, the cover had a tendency to blister and develop holes.

The density of the cover used by this mill was reported as 55 to 60, tested with the Shore Durometer.

Two other types of synthetic covers, made by two other manufacturers, have been in use on other slashers at this mill for a few weeks. So far, their performance has not been entirely satisfactory.

Objections to synthetic covers cited by two other mills included: tendency to pit, collection of fly on the rolls, hardening of the covers, contraction of the covers, and increased shedding at the loom as a result of excessive size on the yarn.

COVERS ARE ECONOMICAL. One mill reported that it has the back squeeze rolls on five slashers equipped with synthetic covers. Some of them have been running 14 months without being dressed. It was estimated that the covers will pay for themselves several times.

No weight is added to the 450-lb. rolls at this mill. Yarn sizes range from 12s to 30s.

Another mill has had a synthetic cover running on a back roll for 3 yr. The cover was first placed on the front roll, but in 6 months it cracked and had to be dressed. It was then

(*Continued on page 198*)

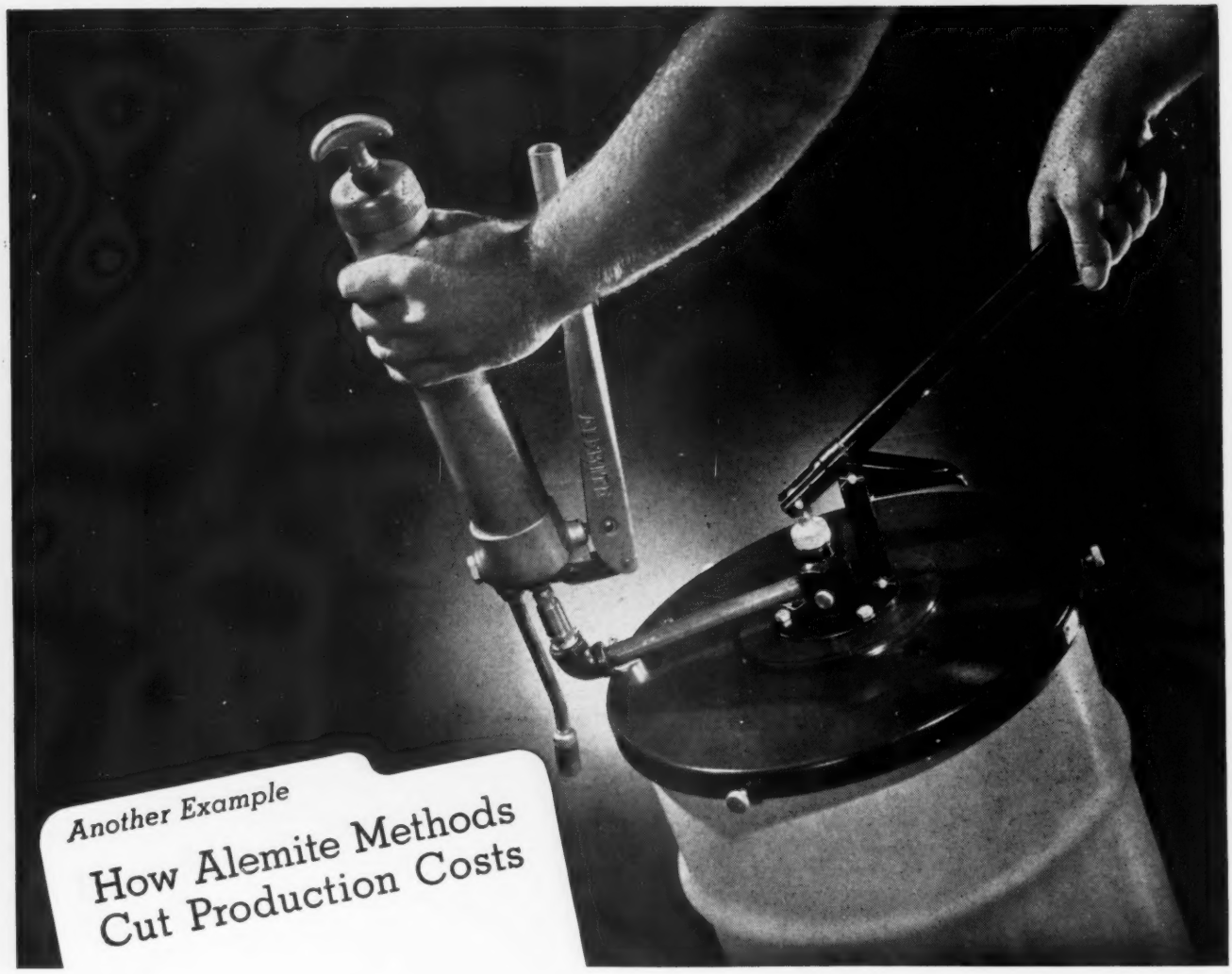
NEW OFFICERS

Officers elected at the spring meeting of the Alabama Textile Operating Executives were:

C. H. Moody, superintendent, Dwight Mfg. Co., Alabama City, gen. chmn., succeeding **A. D. Elliott,** manager, Huntsville Mfg. Co., Huntsville, Ala.

Robert Rearden, West Point Mfg. Co., vice gen. chmn.

Paul Redmont, Jr., Alabama Mills, Birmingham, member of the executive committee.



Saves 3¾ Hours Per 100 lbs. of Grease!

Your Lubrication Methods May Be More Antiquated Than You Suspect

A simple thing like using the hand and paddle method to fill a grease gun boosts maintenance costs . . . and that means lower productive capacity per dollar per machine. The Alemite Representative is a *specialist* in modern methods of handling and applying lubricants. A five minute conference with him may open your eyes to new cost-cutting ideas. So, contact your Alemite jobber, or write **Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.**

Increases Productive Time of Machines by Fast, Clean, Mechanized Handling and Application of Lubricants

You use hand guns in your plant. Then listen to this. Alemite's new method of loading a hand gun can save up to 3¾ manhours for every 100 lbs. of grease you use! Three and three-quarters hours you can apply to other much needed preventive maintenance work.

A minor operation yes, but it's such savings that help to augment your drive to cut production costs. In addition, this Alemite Method saves grease and eliminates mess . . . keeps dirt and moisture out of lubricants.

It's just one of many ways that Alemite Methods simplify lubrication procedures and add more productive time to machines. The Alemite Representative can show you case after case where time study analysis proves that modern Alemite Methods eliminate costly, time-consuming handling of oils and greases . . . slash time-outs for lubrication . . . completely mechanize barrel-to-bearing lubrication. He can show you how to lubricate as many as 300 bearings from *one* safe, central point while the machine keeps on producing! Get the complete facts, today!

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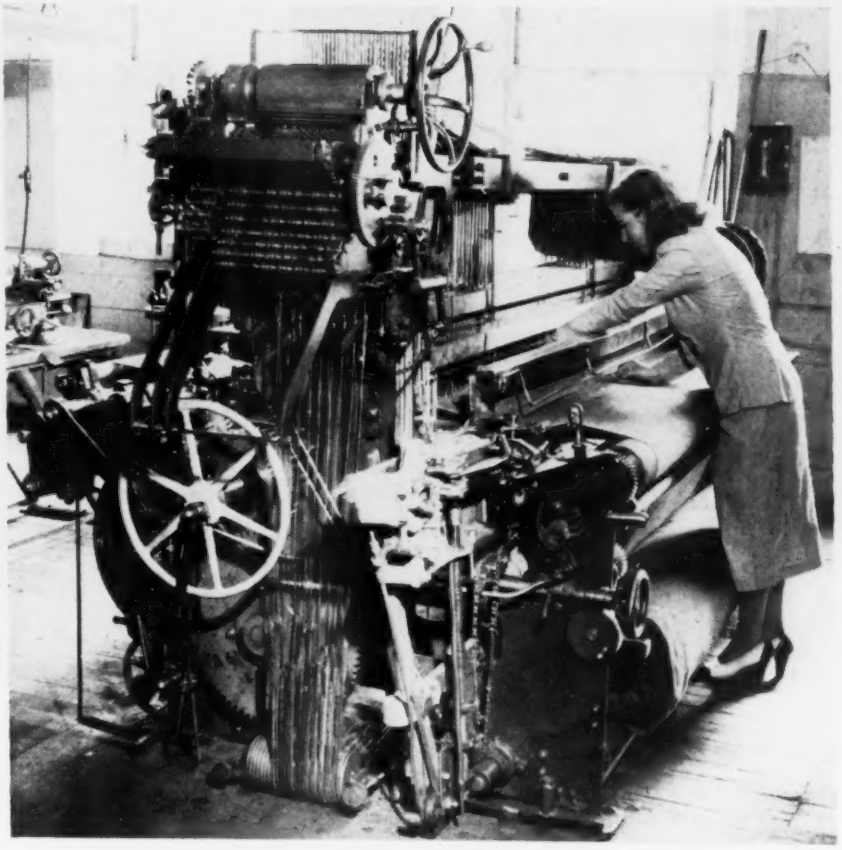
Another Product of STEWART WARNER

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

TEXTILE Equipment NEWS



Loomsides and arches are cut from steel plate and are welded to cross girts.

NEW WOOL LOOM
Has Wide Speed Range

HIGHLIGHTS: *Welded-steel frame construction provides rigidity—Aluminum used in lay ends—Dwell motion slows lay movement at back center 13%—Variable-speed motor permits speed changes without adjustments—Protector daggers eliminated.*

By EUGENE P. SCHREMP
Consulting Editor, TEXTILE WORLD

AN AUTOMATIC woolen and worsted loom with a number of new and improved motions has been designed by William H. Baker. Prototypes of the Baker loom, as it is called, have been constructed by Coastal Machine Works, 113 E. Washington Ave., E. Bridgeport, Conn.

A wide range of fabrics from lightweight tropical-worsted suitings to heavy overcoating may be woven.

Head motion is made to use up to 26 harnesses, but could be built for 30 harnesses if desired. Head-motion frame is made of steel with large openings to permit easy repairs or replacement of parts. A loomfixer can reach all parts easily.

Loomsides are cut from steel plate to eliminate breakage. Frames and girts are welded to the loomside, making a rigid frame.

Crankshaft is made in three pieces with the ends fastened to the shaft by heavy couplings to permit easy removal. Five roller bearings are used, one outside the frame and two at each end of the crank. Bottom shaft runs on four roller bearings. Couplings at each end also assist easy removal.

Double drive gears bolted to a hub on the bottom and crankshaft are easily replaced or can be turned so worn teeth mesh in a different place.

Picking motion has been designed to permit a large diameter warp beam. Flanges up to 30 in. in diameter can be used without having the warp beam extend out on the floor in the weaver's way. An inverted bat-wing picking shoe with the picking cam close to the loomside places the picking motion out of the way of the loom beam.

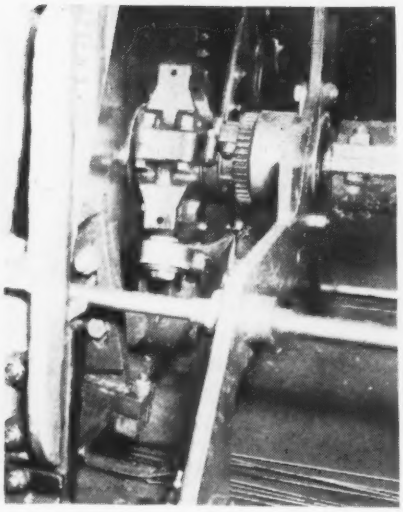
VARIABLE-SPEED DRIVE. A variable-speed motor with a V-belt drive is standard, but a conventional loom motor with gear drive can also be used. An almost unbelievable speed range is possible without the usual picking and checking adjustments. By turning the variable-speed control, the loom will run as slow as 90 picks per min. and may be increased to 160 picks per min. without making any picking or check adjustment. Conventional looms usually require adjustments with a speed change of only 4 to 6 picks per min.

A disk-type clutch which may be adjusted by simply lifting out a locking link and turning the plate without tools makes easy adjustment possible.

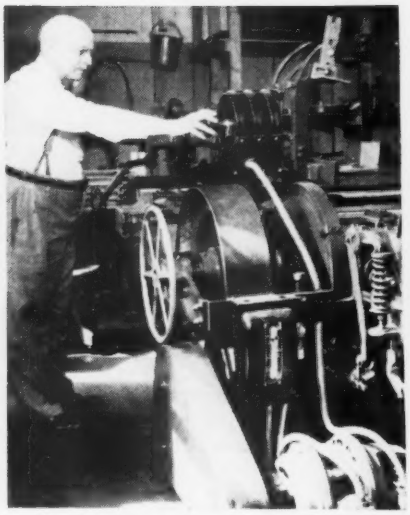
A high take-up roll which also allows a large cloth roll is featured. It is possible to weave a cloth roll up to 20 in. in diameter, a feature helpful when weaving heavy overcoating or woolen blankets.

The take-up motion is turned by a positive worm gear drive from the upright shaft. When the weaver takes out picks by turning the head motion, the cloth is let back by the reverse gear motion.

A positive worm-and-ratchet warp

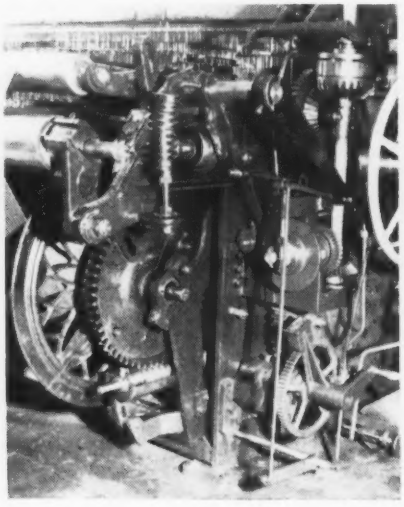


Inverted bat-wing picking motion allows large-diameter beam flanges. Shaft runs on four roller bearings.



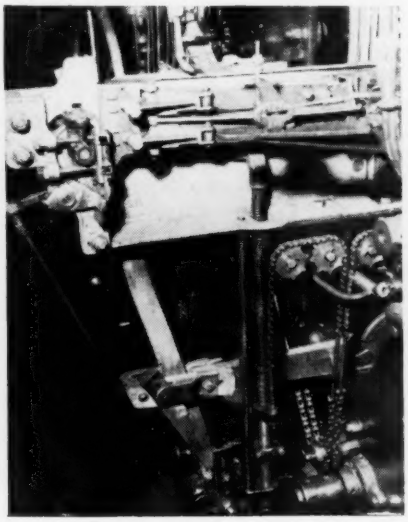
Variable-speed motor with V-belt drive permits changing the speed of loom as shown by William Bohen, the designer.

***The automobile-type clutch** is sealed from grease and oil. Adjustments are made by turning plate by hand.*



Tension-controlled warp let-off requires no attention after start of warp.

Broken ends are easily located by moving sliding notched bar of warp stop motion.



Heat-treated aluminum lay end replaces iron. Shuttle check is set by lay movement.

let-off is controlled by the warp tension on the top whiproll. After a warp is started, the proper warp tension is obtained by adjusting the whiproll spring. After this is done, no further adjustments are necessary.

The decrease in the diameter of the warp beam is said to have no effect on the tension of the warp. With this let-off, the operator does not have to remove weights or spring tension as the warp becomes smaller.

Warp stop motion works on the notched-sliding bar principle. It is made to use from one to six banks without any complicated adjustments. A broken warp end will stop the loom at each pick.

The operator can locate a broken end by lifting out a pin and sliding the rods by hand. Moving the notched rods with a drop-wire down will cause the wires to make an opening in the warp, clearly showing the location of the broken ends. Stop motion is designed to have wires dropped in the drawing-in room to save time in starting up a new warp.

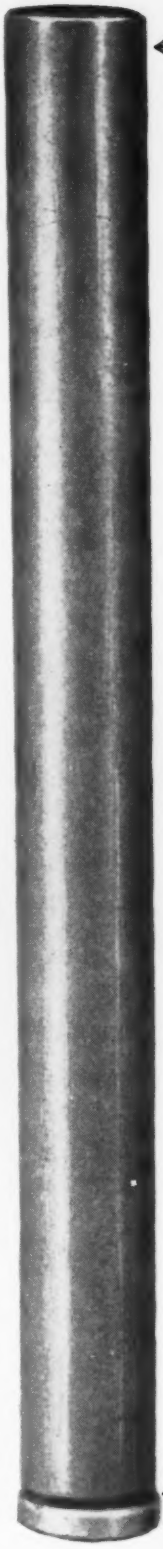
SHUTTLE CHECK. This loom also features a new shuttle check which absorbs the force of the incoming shuttle. The shuttle is checked by the picker forcing a piece of leather through a friction clamp. At each movement of the lay, the check is reset by a rod and lever connected to the picker stick. Proper checking of the shuttle allows higher loom speed.

A new dwell motion allows 13% more time for the shuttle to cross the warp. Loom speed may be increased from 10 to 13% without increasing the velocity of the shuttle. This is done by using a double set of cranks and levers fastened to the loom side. An eccentric motion is produced, slowing the movement of the lay at back center.

A leather-faced wooden binder maintains a parallel checking position on the shuttle. Shuttle pressure is easily adjusted by set screws.

Lay, lay ends, and lay swords are made of heat-treated aluminum which combines strength and lightness.

Protector daggers used on conventional looms are completely eliminated. If the shuttle does not enter the box properly, a rod extending toward the back of the loom releases the brake and also pulls the whiproll against a heavy coil spring relieving the warp tension. If a shuttle should become trapped in the warp shed, releasing the warp tension will prevent broken ends. As soon as the brake is reset and the lay moved to a starting position, the original warp tension is



Point of Contact

2 POINTS OF SUPERIORITY in the SONOCO BOBBIN

STRAIGHT SIDE WARP SPINNING

1 The spindle top fits the "cushion grip" with a gentle squeeze to make top-drive contact, which breaks sharp and easy without drag or pull in doffing.

Uniform tension can only be obtained through top drive —the SONOCO Straight Side Bobbin cannot make contact with spindle except at top. Positive contact at top and positive clearance at base also means uniformly easy doffing.

2 A straight side bobbin and a straight side spindle acorn means constant uniform clearance at this point, which is essential in maintaining top suspension drive.

Point of Clearance

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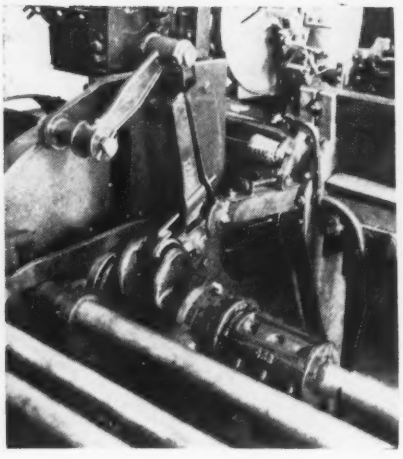
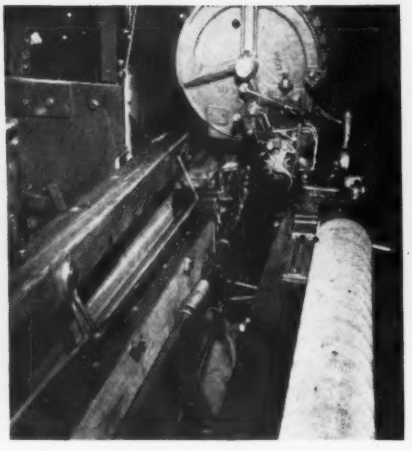
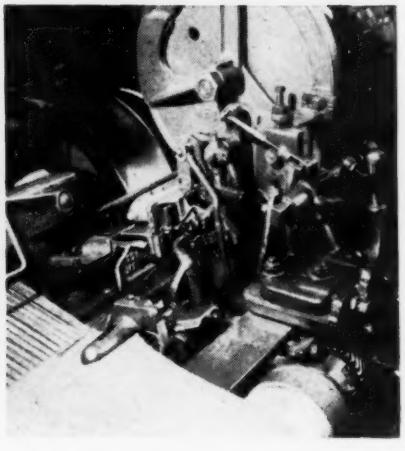


***Crank arm dwell motion** slows lay at back center allowing shuttle more time to cross warp. Roller bearings are close to crank.*



***Protector daggers** are eliminated. Lay is stopped by brake and shock-absorbing springs on whiproll.*



***Rotary-type battery** with star-wheel filling cutter will not release end until three bobbins have transferred, preventing double filling.*

automatically restored and a perfect start up is assured.

Filling stop motion is a conventional type with the filling fork located in the center of the lay.

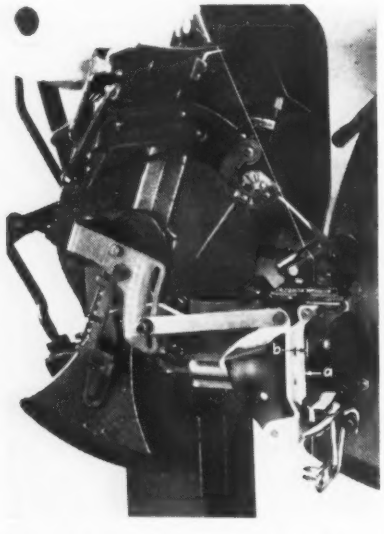
A self-energizing loom brake is designed to stop the loom smoothly. A large external brake band utilizes the force of the turning loom to tighten the brake band.

A rotary filling battery transfers the bobbin on a two-cell shuttle box. This is done by lifting the battery to the height of the shuttle box when it is in a raised position. The mechanism is timed to transfer the full bobbin when the box is lifted with the second box cell empty. This system compensates for uneven or shady filling.

By using a four-cell shuttle box on the side, a fancy filling pick may be changed by hand. A four-cell stationary magazine for weaving up to four colors of filling, interchangeable with the rotary battery, is also available. These filling changers are designed to fit on the same stand and can be changed with very little difficulty by the loomfixer.

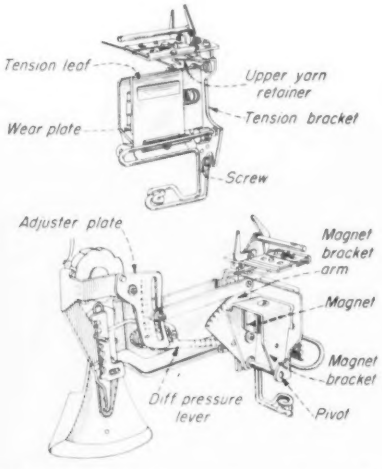
A new star-wheel filling cutter and revoker is used which is very helpful when weaving heavy woolen filling. It is designed to hold three ends, making the holdings last for three filling changes. This device prevents a closely timed transfer from dropping one of the filling ends to be carried into the fabric by the shuttle.

New Tension Device Uses Magnetic Force



***Tension is applied** by pressure of loosely mounted, magnetically attracted tension leaf* **a** *against a non-magnetic wear plate* **b**.

A new pinch-type tension device for winding normal-twist synthetic yarns has been developed by Universal Winding Co., Providence, R. I. This device, called the Magnetension, uses magnetism to provide the degree of tension applied when winding yarn.



***The Magnetension** can be easily applied to the No. 50 winder in place of the present tension.*

Tension is applied to the yarn by a loosely mounted, magnetically attracted tension leaf pressed against a non-magnetic wear plate by the attraction of a small permanent magnet placed on the back side of the wear plate. Initial tension settings are readily provided by movement of the permanent magnet toward and away from the wear plate. Final tensions are determined by the settings of the lever attached to the traverse-frame counterweight.

Some advantages claimed for the Magnetension are summarized as follows:

1. The non-multiplying characteristics of this straight-thread-line, pinch-type tension results in fewer shiners and broken filaments, and lower end breakage.

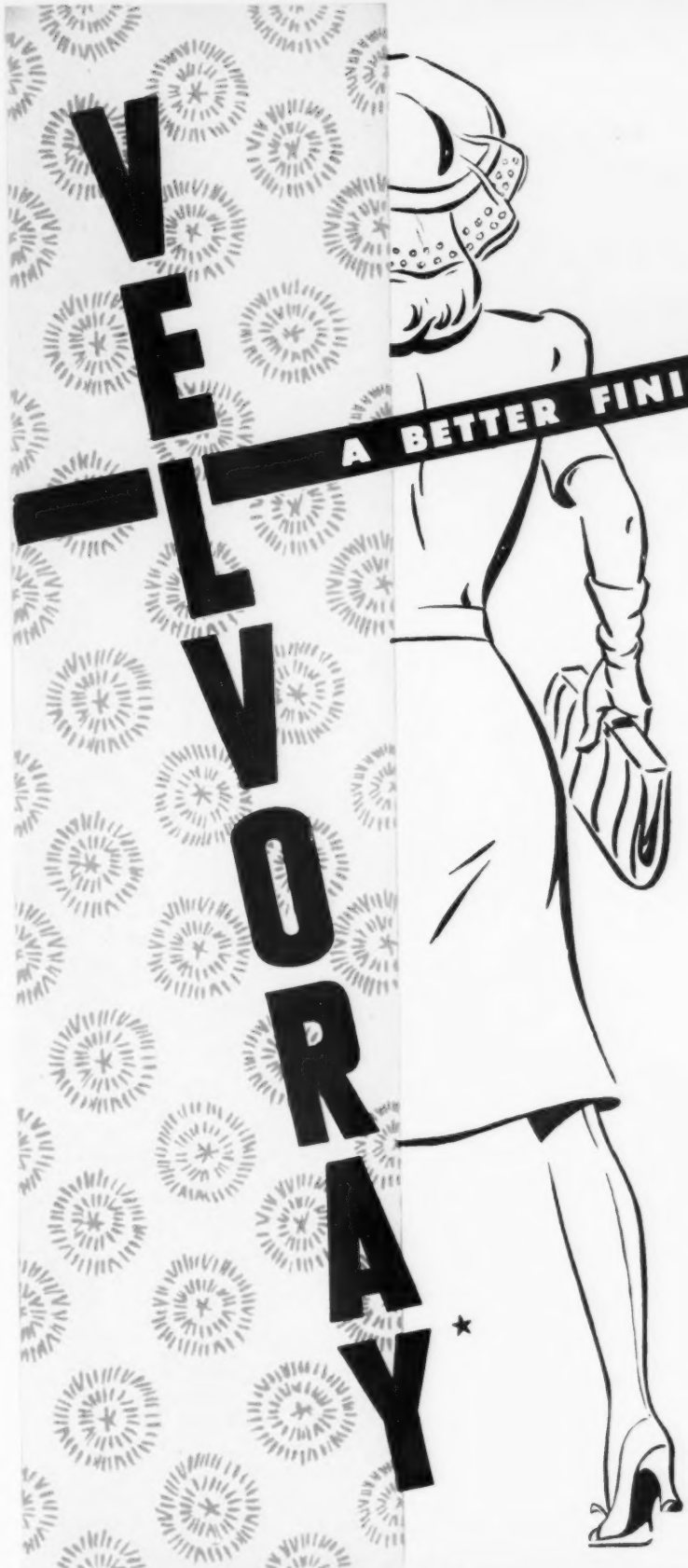
2. Smoothness and evenness of tension is achieved through the use of the low-inertia, loosely mounted, magnetically attracted, tension leaf.

3. Untensionized yarn resulting from plucks in the supply causing cut ends and loops at the cones are eliminated since the yarn is constantly controlled.

Universal will shortly be in a position to supply these tensions in unlimited quantities.

Knitting Loom Developed At N. C. State Textile School

A pilot-model knitting loom has been developed at the School of Textiles, North Carolina State College, Raleigh, N. C. The machine is the first major development of the school's recently established Department of Machine Design and Development. The department, headed by Clarence



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for a quality feel that adds appeal—
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VELVORAY DOES NOT FOAM . . . produces regular results.

DOES NOT SMOKE . . . Velvoray goes into the goods, not up in smoke—economical!

DOES NOT OXIDIZE . . . Won't turn rancid . won't discolor fabrics.

STABLE EMULSION . . . No oil or fat globules form—a frequent cause of spotted fabrics.

Remember these two important points: Velvoray is a *better* finishing oil. It's made *only* by Royce.

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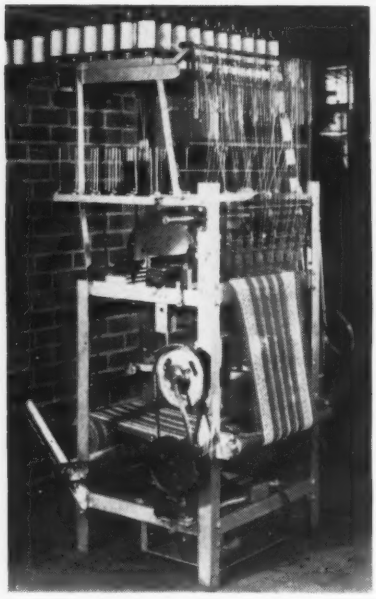
*Reg. U. S. Pat. Off.



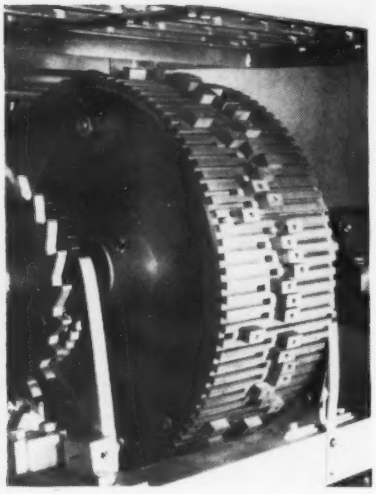
Simplicity of operation and maintenance is an outstanding feature of this new knitting loom.

M. Asbill, Jr., was established for the purpose of improving existing textile machinery and developing new equipment.

The present machine produces fabrics up to 18 in. in width, but production models for wider fabrics can be easily produced. The narrow model is small and simple enough to be suitable for use in the home.

Most important improvement presented by this new knitting loom is in the pattern-control system. One pattern wheel for filling and one pattern wheel for warp is used. A single adjustment, loosening of a locking screw and repositioning of the pattern block, is all that is required to make one change in pattern. Many cams and rods are eliminated with this improved pattern-control system.

Specifications of the knitting loom are: width, 40 in., depth, 45 in.; and height, with the creel bobbin feed in place, 72 in. The machine is belt-and-chain driven from a ¼-hp. motor. Conventional, large-size latch needles are used to knit an interconnected chain in the warp. Warp needle bed spacing is 1/10 in. Two sets of warp fingers make possible interlacing the warp chains; these fingers may be traversed laterally for 1¼ in., controllable by the warp pattern wheel. This makes it possible to produce a fabric without a filling. Filling, where required, is fed to the warp through tubes. These tubes are 4½ in. long and can be inserted into any of four filling bars that



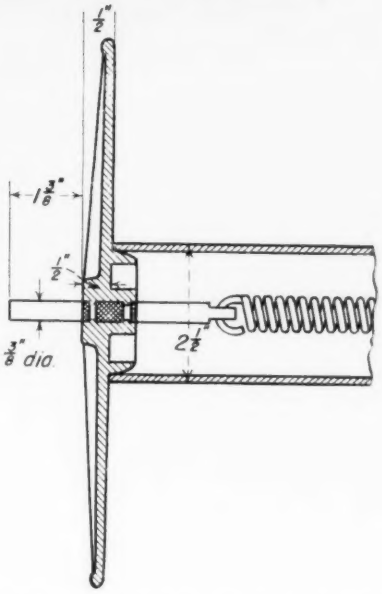
Changes in pattern are easily accomplished by repositioning blocks on this wheel.

have adjustable spacing for the tubes. A 4½-in. filling traverse is possible.

The pattern is controlled by two wheels. The filling pattern wheel is supported by a shaft resting on the frame of the machine and is directly behind the filling bars. The filling pattern wheel can knit up to 24 courses before a repeat. The warp pattern wheel is of similar nature and rotates on a shaft above and slightly behind the warp fingers. Twelve courses can be knit in the warp before a repeat is necessary. Construction of both pattern wheels is similar. To form the pattern, a pattern block is inserted in a dovetail groove after the loosening of a center locking screw. The block is positioned for the pattern then is locked in by tightening the screw. Once the pattern is set, the yarn is fed in from bobbins or spools on the creel. The upper level of the creel feeds the warp, and the lower level of the creel feeds the filling. Take up of the finished fabric occurs below the warp-knitting line in front of the machine. A sand roll takes up the fabric which is carried to a cloth roll in back of the machine.

Basic operating principle of the knitting loom is to lay the filling laterally across a line of needles knitting a warp in the form of a chain stitch. The filling is then knitted into the cloth by the action of the warp needles. Fabrics up to 18 in. wide can be made. The machine's greatest advantages, according to the designer, C. M. Asbil, lies in its ease of pattern adjustment and its simplicity of operation and maintenance. The very fact that it was designed and constructed for possible use in home industry gives the knitting loom the valuable characteristics of having an inherent minimum of construction and requiring little maintenance that industry should find beneficial.

Jack Spool Has Flexible Heads



Breakage of spool heads from dropping and other causes is said to be reduced by the construction of this new jack-spool.

Breakage of jack-spool heads from dropping is said to be eliminated by the design of a new, all-magnesium spool being produced by Flex-Spool Co., Box 1146, Pittsfield, Mass. Other advantages claimed are added strength, lighter weight, no rusting, no warping or splintering, and elimination of all nuts, bolts, and washers.

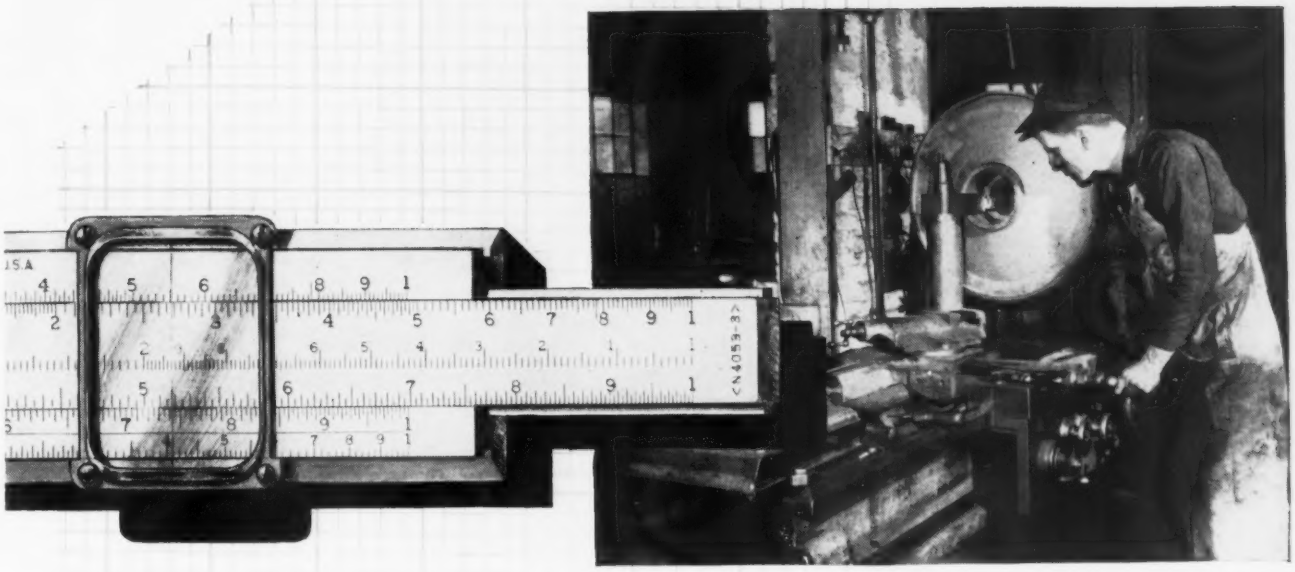
Spool heads are held on the barrel by a spring passing completely through the 2½-in. barrel. This construction is designed to permit the heads to flex if the spool is dropped.

New Thread-Guide Material Wears Smooth

A new material for pigtails and other types of fabricated thread guides for creels, warpers, and all winding operations is said to show promising results after nearly 18 months of testing. The material—Bor-Al-Sil—is being fabricated by Richard H. Bird & Co., Inc., 1 Spruce St., Waltham, Mass.

While Bor-Al-Sil has a hardness of 7 on Mohs scale, it is said to wear smooth, actually taking a high polish from the thread as it rubs against the guide. The hardness of Bor-Al-Sil is

OPTICALLY ENGINEERED---



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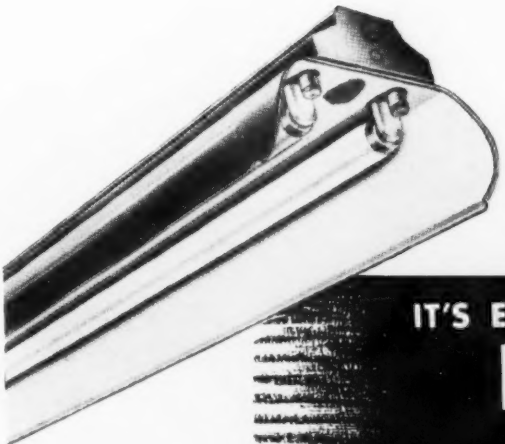
Day-Brite Fluorescent Lighting Fixtures distribute the light evenly without glare, deep shadows or distortion, as required for precision work. They are rigidly constructed and designed for easy installation and carefree maintenance.

Evaluate all these features in dollars and cents and you will find that Day-Brite Fixtures are worth a whole lot more than they cost.

The DAY-LINE heavy-duty industrial fluorescent fixture with porcelain-enameled steel reflectors. Designed for two and three 40-watt and two 100-watt lamps . . . unit or continuous installations. U. S. Patent Nos. 2317434, D-135375 and D-133458.



Day-Brite Lighting, Inc., 5455 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.

In Canada address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

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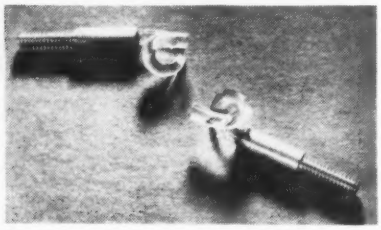
IT'S EASY TO SEE WHEN IT'S

DAY-BRITE *Lighting*



Thread guides made from new Bor-Al-Sil material are reported to wear smooth and take on a high polish from yarns.

uniform throughout the material. A further advantage is that Bor-Al-Sil is a non-conductor of heat.

Bor-Al-Sil thread guides have been under test at the Gonic Mfg. Co., Gonic, N. H., since December, 1945. Gonic officials report that they are being used on a No. 90 Universal Winder for worsted yarn and that results have been entirely satisfactory. The manufacturer reports that several Bor-Al-Sil thread guides taken from Gonic machines after several months of use and examined under a microscope showed some evidence of wear, but edges of the worn areas were smooth and the groove itself has a high polish.

Bor-Al-Sil thread guides are supplied in brass holders in order to reduce the danger of rusting and corrosion, but can be mounted in steel or any other type of holder required by the machine to which they are to be fitted.

Present limitations of Bor-Al-Sil result from the inability to produce molded thread guides from it. The material lends itself to the manufacture of pigtails, U-shaped guides, and other shapes which can be fabricated. Where thread guides of this type are usable, Bor-Al-Sil can be expected to stand up satisfactorily when used for almost any material, according to the manufacturer.

Dancer-Roll System Controls Tension

An electronic device designed primarily for synchronizing the speed of independently driven machines used in textile finishing and similar continuous-process operations is a recent development of the Reliance Electric & Engineering Co., Cleveland, Ohio.

Termed the VSS, or short-stroke dancer-roll control system, the unit controls motor speeds from the position of the material passing between two machines when there is a short amount of motion to provide this control, and/or where the load of the controller must of necessity be very small. It is designed to eliminate the mechanical wear associated with sliding controls of the ordinary rheostat.

The device is essentially a phase-shift rectifier capable of producing a variable rectified d.c. output voltage. This is accomplished by displacing an iron core in a solenoid or wound coil. The unit has been designed for 230-volt d.c. service and a maximum current of 2.0 amp.

A special variable reactor and phase shift circuit was developed to surmount the objections of non-linear action and heavy magnetic pull. An open or air-core reactor with two coils was used to reduce the magnetic pull on the movable plunger of the reactor.

Having mainly an air core, the intensity of the magnetic field is reduced and, therefore, does not exert so great a force on the iron core of the movable plunger. Also having two coils and moving the plunger out of one into the other tends to equalize the pull of each magnetic circuit.

Reactor coils are mounted in a bronze casting, which provides the top bearing for the plunger shaft. The bottom plate forms a suitable mounting arrangement as well as the bottom bearing. Average force needed to move the plunger is the friction of its shaft in the bearings. This is approximately one ounce in the horizontal position. Total movement of plunger is $\frac{9}{16}$ in.

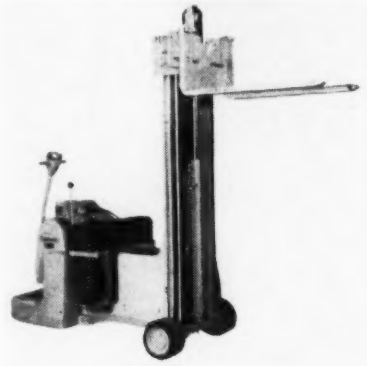
Cloth Soaped On One Or Both Sides

A new Fleet Line soaping machine is in production, according to an announcement by Riggs & Lombard, Inc., Lowell, Mass. The new soaper may be used for soaping only one side of the cloth, or, by a tandem arrangement, for soaping both sides. One feature is a doctor blade which may be adjusted to regulate the amount of soap carried to the cloth.

The machine is designed to handle all types of woolen and worsted fabrics at speeds of 20 to 60 yd. per min., depending on conditions and requirements.

At present, the soap level is maintained manually, but it is expected that installations in the near future will incorporate automatic constant-level controls.

Low-Cost Fork Truck Has New Tilting Mechanism

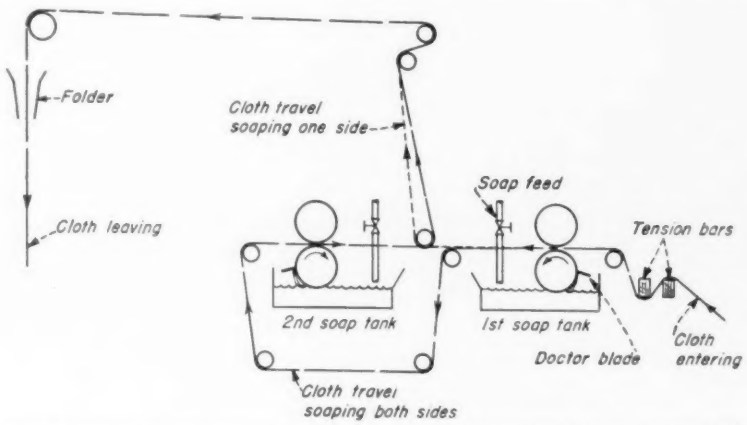


Weight has been reduced in this new hand fork-lift truck to permit use of elevators.

An improved suspended-fork-model Transtacker which weighs 3,400 lb. and which is priced at $1,800, including battery, has been announced by Automatic Transportation Co., 149 West 87th St., Chicago, Ill.

An automatic tilt at carrying position is standard equipment on the new model. Automatically cradling all loads, the tilt is one the operator cannot forget to use. No additional working parts, motors, or controls are required.

The new tilt operates through a vertical cam, 9 in. high, bolted to the lower front of the truck's mast. As the fork carriage is raised, the cam pushes the lower carriage roller forward, tilting the entire carriage and raising the front end of the forks proportionately. Maximum tilt is main-



The amount of soap applied to the fabric may be regulated by a doctor blade

Combines

QUALITY FINISHING with PROFITABLE PRODUCTION...

Every feature in the design of Proctor automatic boarding equipment for women's hosiery has been incorporated with an eye to quality finishing—and profitable production.

To assure the utmost in top quality finishing these are some of the features—smooth, thin boards; equalized air circulation to make possible uniform drying; a gently automatic stripping arrangement, which strips stockings from the boards and piles them in neat, well formed piles. Auxiliary equipment that is optional is the steam welt setter, the automatic conditioner, and modern, accurate temperature controls. All of these features assure top quality finishing at all times.

The very automatic operation of the system is the most outstanding contribution to profitable production. Because drying, stripping, piling and counting are entirely automatic with this system—boarders have about 53 minutes of every hour available for actual boarding or placing the stockings on the boards. The effect of this on overall production is obvious when compared to the limitation of systems where much of this work must be done manually.

Survey your boarding room—and then investigate the possibilities of Proctor equipment with regard to quality and production. Write for details today.

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• BOARDING
• MACHINE

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tained over 3 in. of the cam where it is the thickest, and in standard position this tilt begins when the heel of the forks is 6 in. from the floor.

Height of tilt may be varied from 3 to 12 in. above the floor by adjusting the position of the cam. This is said to provide for the handling of anything from tinplate pallets to 12-in. skid platforms. The cam is attached to the truck mast by four bolts, which may bet set in any consecutive four of the seven bolt holes in the mast.

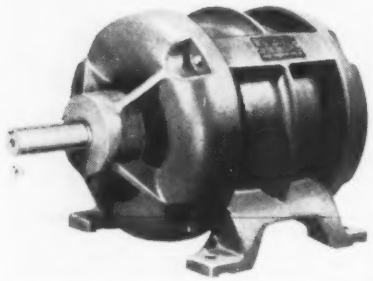
Other improvements in the new model Transtacker are designed for more effective operation, durability, safety, and economy. A non-skid drive tire is standard equipment on the new model. The distribution of weight has been improved to provide better traction on the drive wheel.

Road clearance has been raised to 4⅜ in. The truck is also 3¾ in. shorter from the center line of the drive wheel to the fork face, providing better vision for the operator.

For the convenience of the operator, there are a new repositioned hydraulic release lever and new push-button controls making the truck easier to operate. In addition, a new hydraulic-lift motor and pump—a direct-connected integral unit—replace the former separate motor and chain-driven pump to provide more efficient lift.

Capacity of the new suspended-fork Transtacker is 2,500 lb. for a 36-in. load or 2,000 lb. for a 48-in. load. Lifting height of the forks is 64 in. and the overall height is 79 in., allowing ample clearance for standard 7-ft. factory and freight-car doors.

Textile Motor Design Prevents Lint Accumulation



Servicing is said to be made practically unnecessary for 5-yr. periods by the design features of this new motor.

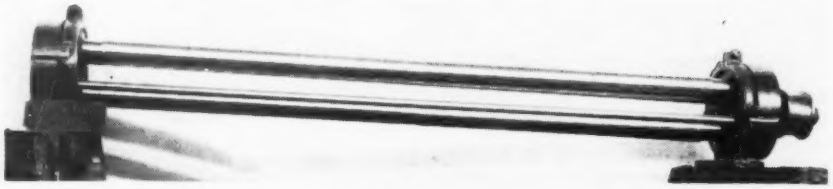
An improved "Quick-Clean" textile motor with prelubricated, double-width, double-sealed ball bearings said to make servicing practically unnecessary for 5-yr. periods, has been announced by Allis-Chalmers Norwood Works, Norwood, Ill.

The redesigned motor has heavy-section cast-iron bearing brackets with large openings, specially machined and finished to prevent building up of lint. Stator yoke is of cast iron with a specially designed external contour which provides a smooth non-obstructing flow to the ventilating air after it passes through the openings in the bearing brackets.

Stator winding utilizes heavy insulated copper. Coil ends are inclosed with Bakelite shields held in place by silicon compound and self-tapping screws which fit into drilled holes in the outside edges of the yoke. Rotor cage is die-cast with integrally cast fans of special design to give the ventilating air the velocity and direction necessary for prevention of lint accumulation.

The motor, available in sizes of 3, 5, 7½, 10 and 15 hp., is suitable for spinning, twisting, and roving frames and other applications common in textile mills.

Spiral Opening Roll Prevents Wrinkles In Open-Width Finishing



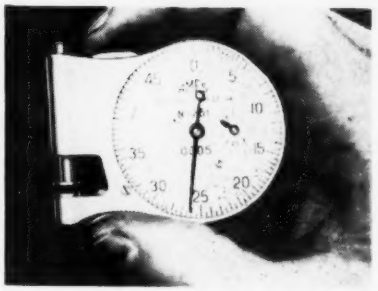
A newly designed, adjustable-spiral opening roll unit has recently been placed on the market by Birch Brothers, Inc., Somerville, Mass. This unit is designed to remove wrinkles and doubled selvages from all types of fabric as the fabrics are being processed in the open width. Some of the applications are on padders, mangles, mercerizing ranges, open-width dyeing machines, printing machines, etc.

The rolls are made of stainless steel with cut threads; the stay rods are also of stainless steel. The machine is designed so that any desired degree of contact of the rolls with the cloth may be obtained. The machine is fitted with cut gears, one of each pair being of fiber for quiet operation. The bearings for the spiral rolls are self-sealed ball bearings.

Thickness Measures Available in Four Models

The addition of two 0.0005-in. graduated models, a simple zero adjustment, and fixed parallel contacts feature an improved line of dial thickness-measures being marketed by B. C. Ames Co., Waltham 54, Mass. The new models are especially suited for accurate measuring of membranes and fibers. Weighing only 1¼ oz., with a case thickness of only ¾ in., these pocketwatch-size visual micrometers enable the user to make on-the-spot measurements of both compressible and non-compressible material and objects.

Attainment of accurate readings is independent of the human factor. The index finger, drawn back on the knurled wheel, raises the upper anvil, permitting insertion of the piece to be measured; lifting the finger releases the wheel and allows a uniform spring pressure to close the upper anvil onto the work surface.



Thickness up to 5/16 in. can be quickly measured in graduations from 0.0005 to 0.001 in.

The contacts are ¼ in. in diameter. A direct-reading count hand permits fast readings to be obtained anywhere within the 0.3125 in. range of the gage. Dials are 1⅝ in. in diameter, and easily read. The case is an aluminum forging, with all outside surfaces fine-ground and polished. In addition to the two 0.0005 in. graduated models, which have dials reading 0 to 40 and 0 to 50, there is a 0.001 in. graduated model having dial numbered 0 to 100, and a metric model graduated in 0.01 millimeter, dial numbered 0 to 100 and with a range of 8 millimeters.

Decimal equivalents are stamped onto the back of the case on the English-measure models. An attractive, grain-leather, snap-button case is provided; also instructions for operation.

TEXTILE EQUIPMENT NEWS

(Continued on page 228)

LET THIS NEW EDMOS KNITTER PROVE HOW 1½ FEEDS PER DIAMETER INCH GIVE YOU HIGHER PRODUCTION AND PROFITS

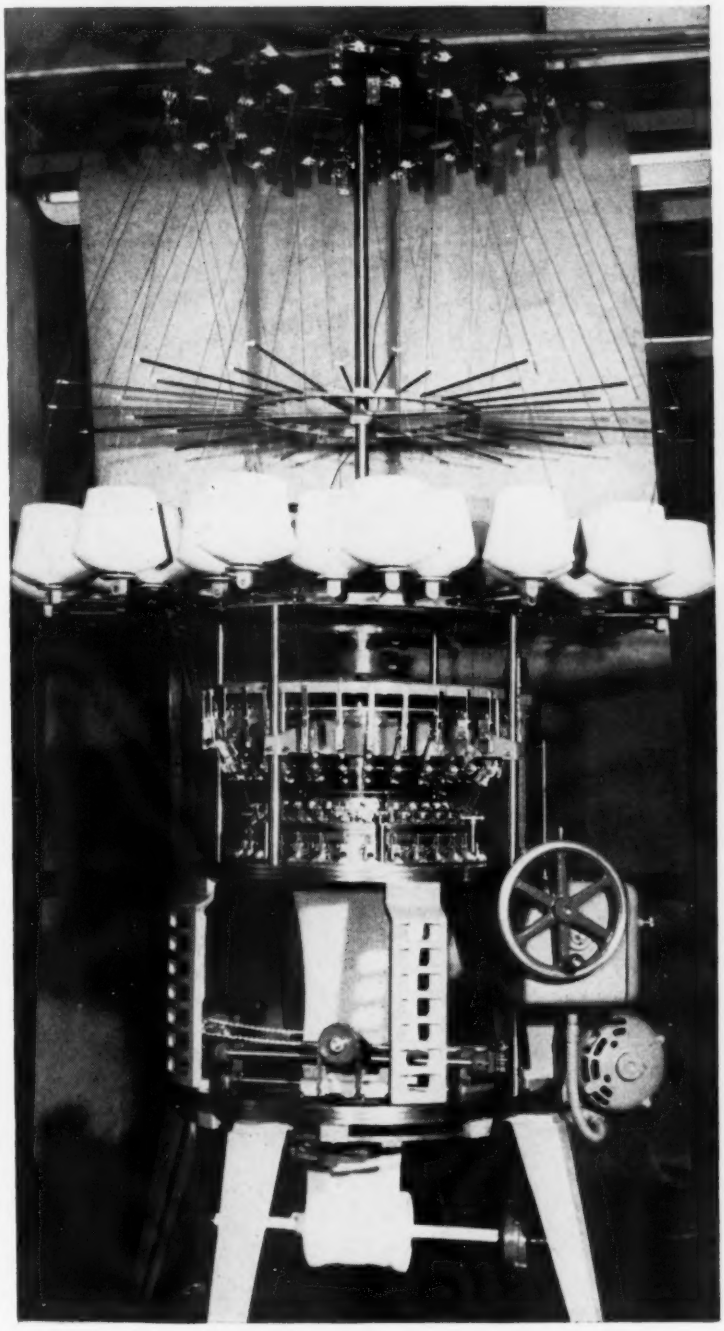
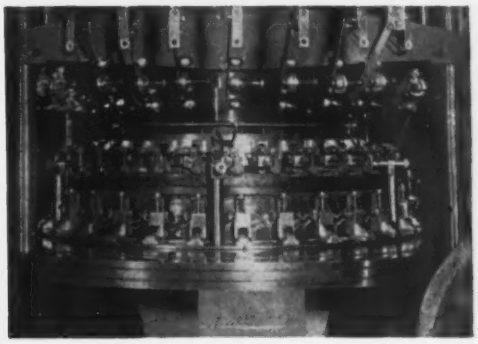


Illustration: Model Shown Is 20" - 30 Feeds

The new Edmos Type EEM Super Multi-Feed Plain Rib Body Machine, now available for early delivery, is daily proving that it produces up to four times more work than older type machines. Yet it occupies the same space. When you see this versatile knitter demonstrated at the Edmos plant, you will visualize its value to you in high speed operation and profits. Designed for Swiss rib fabrics, it is also ideal for cloth used in "T" shirts, polo shirts, etc.



Type EEM comes as follows:

12"—18 feeds	18"—27 feeds
13"—19 feeds	19"—28 feeds
14"—21 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
24"—36 feeds	

All machines complete with motor drive and electric stop motions.

Type EEM features:

Simplified camming system both on cylinder and dial
Gear driven dial
Oversized dial shaft
Adjustable motor mount
Simplicity—Accessibility
Interchangeability

EDMOS PRODUCTS CORP., 13 Christopher Ave., Bklyn 12, N. Y.

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

MUTUAL UNDERSTANDING

Glenn Gardiner

Most of our problems today seem to stem from a lack of understanding. Workers and the supervisor often do not "see eye to eye". Again, we find that among many supervisors—whether they are foremen, overseas, or superintendents—there may be no "meeting of the minds."

It's Your Move

As a supervisor, the chief responsibility for developing mutual understanding rests on you. It's your first move. It's part of every supervisor's job to take the initiative in making certain that a clear-cut understanding exists between himself and each of his workers, and his fellow supervisors.

Let Your Workers Know How They Stand

Let each of your workers know where he stands. Just because they don't ask questions, it should not be assumed that they have no questions on their minds.

Keeping workers "in the dark" as to how they are making out is a great efficiency robber. You know that you are concerned about just how you stand with your boss. You may be sure that the people under you are just as concerned about how they stand with you.

Common Misunderstandings

If you will just think over your experience, both as a worker and as a supervisor, you will recognize that there are certain kinds of misunderstandings which are most common. Some factors regarding which misunderstandings develop are the following:

Quality standards of workmanship expected of a man.
What is a fair day's work.
Tardiness and absenteeism.
Job methods to be followed.
Observance of safety rules.
Handling of grievances.
Promotion possibilities.
Earnings.
Employee motives and attitudes.
Company policies.

Consider carefully whether any of these apply to a certain worker. Then do the same thing with each worker under your supervision.

How to Create Understanding

There are certain definite tactics which a supervisor can follow to create mutual understanding. Here are some suggestions:

Be clear, explicit, and accurate in your instructions.
Be definite in your explanations.
Be brief.
Where feasible put your thoughts and instructions in writing.
"Lay all your cards on the table."
Always give the reasons why.
Make certain the worker understands the results desired.
Get a man's confidence by showing confidence in him.
Keep your promises.
Learn a man's motives and study his own self-interests.
Pass on all the information you properly can.
Listen considerably to a worker and encourage him to tell you what's troubling him.
Be honest and "above board."
Wherever possible, consult your workers and get their viewpoints, suggestions, and reactions before taking action.

Following these simple suggestions will prevent a great deal of misunderstanding between you and your workers.

Preventing Worker Dissatisfaction

Most dissatisfaction and grievances arise as the result of misunderstanding. Here's how to prevent dissatisfaction:

Get close enough to each worker to know what he wants and why he wants it.
Let him know in advance about changes that will affect him.
Let him know what you are "up against," and encourage him to show you what he is "up against."
Show an interest in his viewpoint and make sure you understand and appreciate it.
Be sure that he knows and understands all the facts involved in mutual problems.
Make your approach to him through his own self-interests.
To prevent misunderstanding, talk to the worker himself and not to somebody else.

You may be sure that as long as there is lack of mutual understanding between you and each of your workers, there are grounds for dissatisfaction and grievances.

How to Get Closer to Other Supervisors

To begin with, you don't get closer to other supervisors by holding yourself apart. Don't wait for them to start cooperating with you. You must make the first move.

Here are some specific things for you to do in order to get closer to other supervisors in your organization:

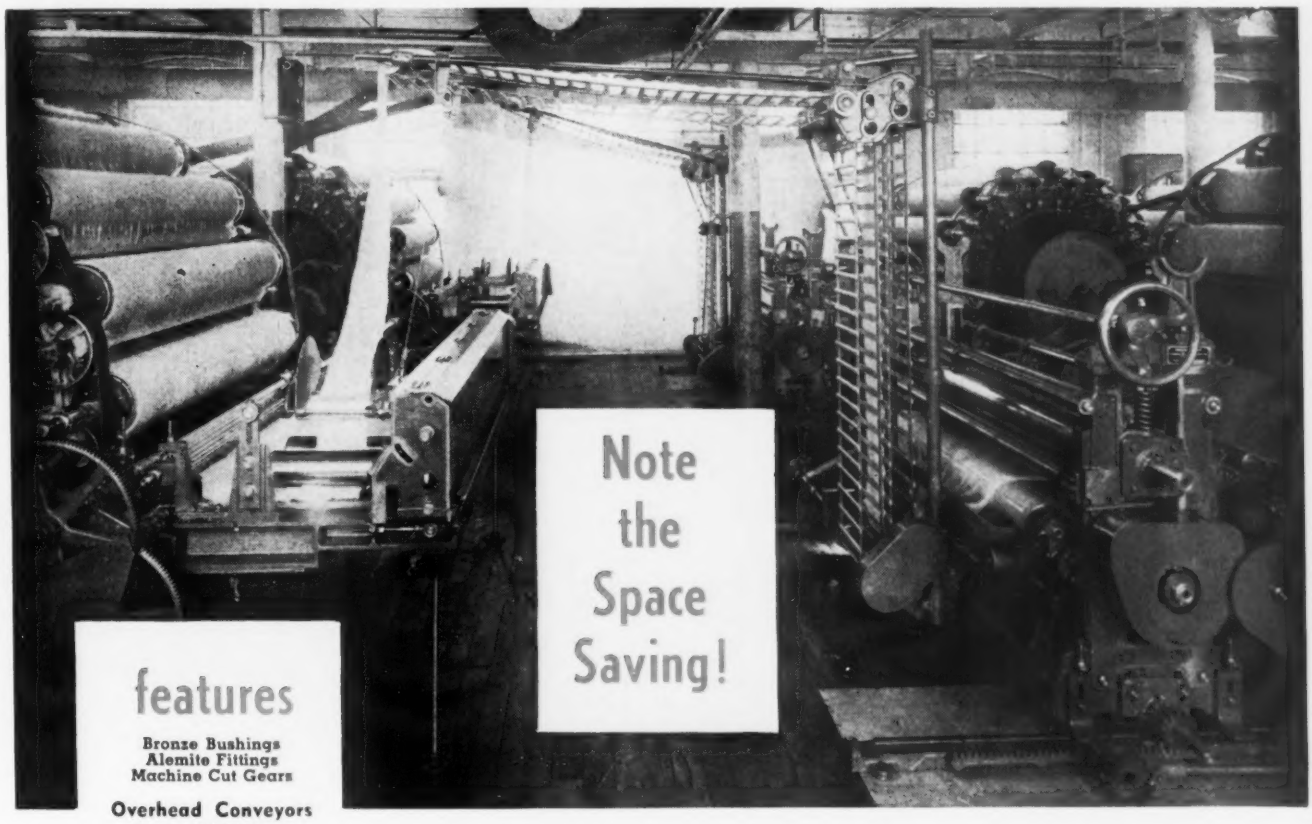
1. Always speak well of other supervisors.
2. Ask the advice of the other supervisor (he'll feel complimented.)
3. Find out ways in which you can be of real help to others.
4. Talk to them instead of about them.
5. Keep your promises to other supervisors.
6. Let your whole attitude toward them be constructive and helpful.
7. Be a booster, not a knocker.
8. Don't "pass the buck" to others.
9. Lay all your cards on the table - tell them "why."
10. Pass along any helpful information voluntarily.
11. Do not keep your new ideas and methods to yourself—if they will help the other fellow, share them.
12. Seize every opportunity to talk over your common problems with other supervisors.

If you will make up your mind to develop and maintain mutual understanding with workers and with other supervisors, you will make their jobs easier and your own job much more worth while.

Duesberg-Bosson of America, Inc.

Our Patented Peralta Machine is highly efficient in removing Burrs, Hard Threads, and all other foreign bodies such as paint, tar, etc.

MORE THAN 2000 PERALTAS ARE IN OPERATION IN THE UNITED STATES AND CANADA



features

Bronze Bushings
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Fastened Rigidly to Peralta
Two Vertical Supports
Less Vibration
Oilless Wood Bushings
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Jaw Clutch Aids Starting
Width of Woolen Band Adjustable—2" to 11"

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Heavier Design
V-Belt Drive
Variable Speed Sheaves
Deeply Fluted Aluminum Rolls
Prevent Web from Sticking

• To fit the Peralta Machine our engineers in Providence have designed a new Intermediate Center Broad Band Feed. It includes many improvements and saves valuable floor space between Peralta Machine and the Feed Table. Also sold separately. Prompt Delivery.

Prices and Delivery on Request.

Duesberg-Bosson of America, Inc.

351 Harris Avenue, Providence, R. I.

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Blowing and Channeling Can Be Avoided in Dyeing

In the June issue of TEXTILE WORLD, p. 131, was an article entitled Dye Application Methods on Stock and Yarn Analyzed. Our experience with dyeing machinery leads us to question two points made in the article.

1. On page 194, the following statements were made: "In beam dyeing, there seems to be a rather definite limitation to the amount of yarn which can be dyed without running the risk of the beams blowing. This is figured in terms of inches rather than in terms of yarn weight. A depth of approximately 3½ in. of yarn per beam appears to be the maximum for 16s singles and 4½ in. of yarn per beam for 8s singles."

I should like for one of the editors of TEXTILE WORLD to visit two local mills where 20s single yarn up to 6-in. depth on the beam is being dyed without blowing. You will find the true cause of blowing in the winding of the beam of yarn, not in the dyeing process.

2. On page 131, this statement is made: "Difficulties due to channeling [in cotton raw-stock dyeing] have not been eliminated by any mechanical alterations in the different types of raw-stock dyeing machines."

At the two mills mentioned, you can also see our double-circulating raw-stock dyeing machine in operation. This machine is equipped with our patented follow plate, which eliminates channeling of the dye liquor. These follow plates have been on our raw-stock dyers since 1929. *(R-418) S. W. Jackson, Morton Machine Works, Columbus, Ga.*

Mr. Jackson's invitation to visit one of the mills mentioned was accepted. The mill visited is equipped with six Morton beam dyeing machines and four raw-stock dyeing machines. Beams wound with 5 to 6 in. of yarn were being dyed without evidence of blowing.

One beam to which particular attention was given was wound with 5 in. of 14s single yarn. The theoretical net weight of the yarn on the beam was 298 lb. The actual net weight was 302 lb.

The head dyer of the mill visited stated that sometimes the depth of yarn on the beam exceeds the 6 in. of the beam head. In such a case, the diameter of the wound beam is larger by as much as ½ to ¾ in. than the diameter of the beam head. The dyer reported that no trouble with blowing was encountered with such beams.

No evidence was seen either of channeling in the raw-stock dyers. The batches seen were 1,000 to 1,100 lb. each, dyed light blues and light greens.

The patented follow plate pointed out is a perforated metal plate that rests on top of the cotton being dyed. As the cotton is wet out and loses volume, the follow plate presses down on the stock. The weight of the plate tends to maintain sufficient density of cotton to prevent channeling.—EDITOR

Spindle Waiting Time Is Unimportant Factor

I have a question in regard to Cone-Winding Task Easily Computed From Data [T.W., May, p. 118].

In the example calculation on page 220, a winder-operator task of four spindles is reached. Assuming that this task is assigned an operator, we are to expect an average production of 33.06 lb. per hr. However, no loss of production has been allowed for a most important factor: namely, down time while the spindle is waiting for attention by the operator.

There is no reason to assume, as the author apparently does, that one spindle will break immediately after,

(Continued on page 178)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I don't care WHAT the name of the room is!"

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The Fuller line is the *complete* line of cleaning equipment. In addition to the standard items pictured here, Fuller makes special brushes for every textile machinery cleaning need. Here is *one* source of supply to meet *all* your cleaning requirements.

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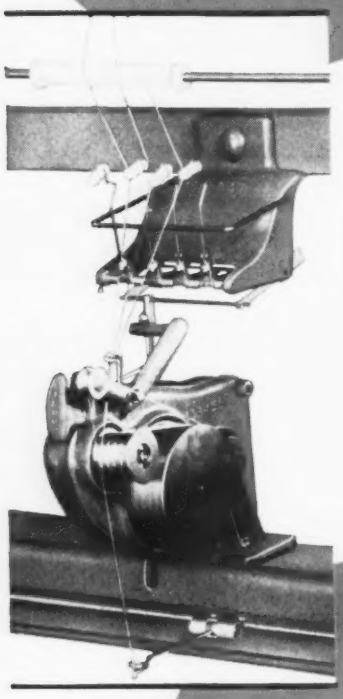
MODEL 10's GIVE LIMERICK First-Rate Twisting

At Limerick Yarn Mills in Manchester, N. H., Atwood Model 10 Ring Twisters twist two ends of worsted yarn supplied from cones located in a magazine creel. In each of these machines, all 100 spindles are driven by a single, lapless, endless belt which gives equal power to each spindle and produces uniform twist from spindle to spindle.



Automatic Stop Motions GIVE MODEL 10's BIG ADVANTAGE

On the Model 10, each spindle is integrally connected with an automatic stop motion which stops the individual spindle and feed rolls simultaneously. Knots can be tied in single ends, avoiding roller laps and drop ply in the package.

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Model 10 *automatic stop motion for each end and ply*

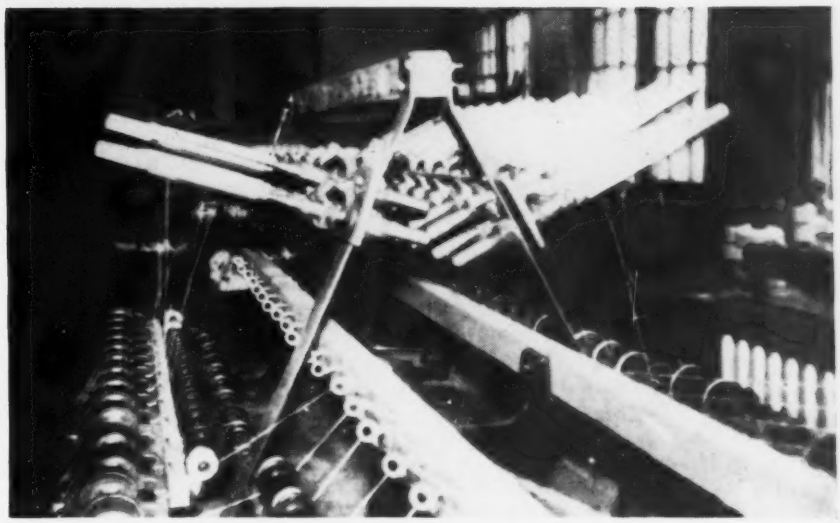
Kinks AND SHORT-CUTS

Creel for Tangled Yarn Utilizes Twister Spindles

✻ **PRIZE WINNER FOR AUGUST**
(June contest)

To provide a means for running off bobbins of tangled yarn in our twister room, we constructed the creel shown here.

The creel supports are made of bar stock (¼x2 in. is satisfactory), held together at the top by a piece of timber (2x2 in. is all right). A section of a twister bolster is bolted to the creel supports on each side of the frame. Twister spindles are bolted in place in these rail sections, and tangled bobbins of yarn are placed on the spindles. The ends are threaded up and rewound. *(K-926)*



Tangled yarn is rewound on a twister from this creel. The twister spindles on which the tangled bobbins are placed are supported by sections of a bolster rail.

Wooden Shuttle Model Can Solve Size Problems

We installed a section of rebuilt looms several years ago. We did not know the sizes of the shuttles and pickers we would need, and we built models to furnish the shuttle company. When we started the looms up, we had no trouble with the shuttles and pickers.

Fixers in many mills often make several modifications to the picker in order to obtain the needed fit between the picker and shuttle. In such cases, shuttle models for each type of loom in use in the mill would be helpful. By using such models as guides, fixers and supply-room clerks could avoid most of the necessity for "tailoring" these loom parts.

The best procedure for making a shuttle model is as follows:

1. Cut a block of wood so that it is ¼ in. smaller in height and width than the shuttle box. The length of the block should be twice the length of the filling bobbin, minus 2 in. For example, if the bobbin is 9 in. long, the block should be 16 in. long.

2. Shape the binder as though this block were the shuttle.

3. Fit the picker so that it will have at least ¼-in. clearance from the inside surface of the binder.

4. Bore a hole in the center of the end of the block of wood so that the hole is exactly in line with the center of the picker head. Drive the shank of a shuttle point into the hole.

5. Move the block of wood to the

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✻ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. *Now*.

RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

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330 W. 42nd St.
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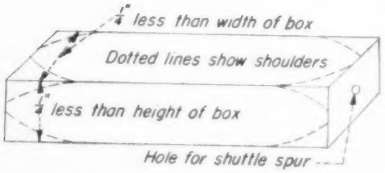


A shuttle model for each type of loom in use in a mill is helpful in specifying shuttle sizes and in checking to make certain that the proper shuttle is being used.

other side of the loom, and repeat steps 2, 3, and 4.

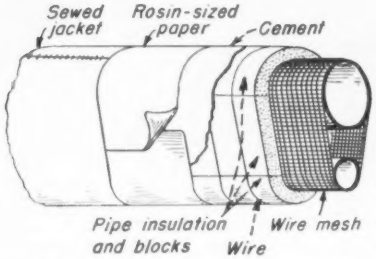
6. You now have a block of wood with a shuttle point in the correct position in each end of the block. File the corners of the block to shape it like a shuttle.

7. Mark the top of the block with a pencil to indicate the correct position of a bobbin in the shuttle. This marking should be done with the shuttle model on the magazine side of the loom.

8. Locations for the eye and grooves should also be marked with a pencil.

Care in making an accurate model will be repaid in good-running shuttles and pickers. (K-928) *C. S. Bicksler, Lancaster, Pa.*

Steam-Traced Lines Require Good Insulation



Insulating a process line, where the pipe that conveys processing material is inclosed with a steam line, requires several layers of material. The arrangement shown here is designed for an indoor installation.

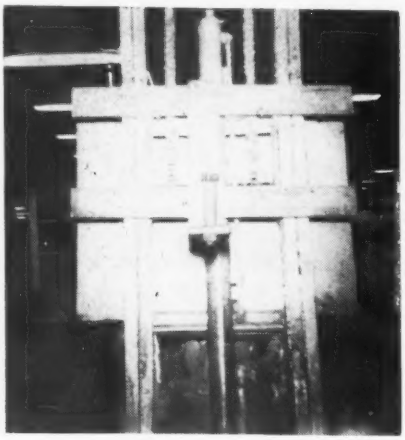
In conveying some materials used in finishing plants, it is sometimes necessary to run a small steam line beside the conveying line in order to maintain the material at a temperature that facilitates flow. Steam-traced lines are particularly useful where material is transferred through an unheated or an outside area in low temperatures. Such lines are useful too where hot liquids that will coagulate in lower temperatures must be conveyed.

Usually, the process line and the steam line are inclosed in an insulating jacket. Proper installation of this jacket will insure good heat transfer. If the jacket is not installed properly, loss of heat and almost certain defective processing will result.

The two pipes should be held adjacent to each other by mesh wire or by baling wire spaced at close intervals. Half sections of circular molded pipe insulation should be used around the process pipe and the steam pipe. The semicircular mold should fit the pipes snugly. At the sides, in the spaces between the two sections of insulation, blocks of the same material and of the same thickness should be placed. The blocks should be cut so that they fit well.

These pieces should be tied securely in place with wire, and the joints should be sealed with asbestos cement. A coat of cement should be applied to the whole outside surface. If additional finish is desired, a wrapping of sized paper and, finally, a canvas jacket sewed on usually are sufficient. (K-899) *The Magnesia Insulation Mfrs. Assn.*

Coupling Bolt on Lift Increases Usefulness

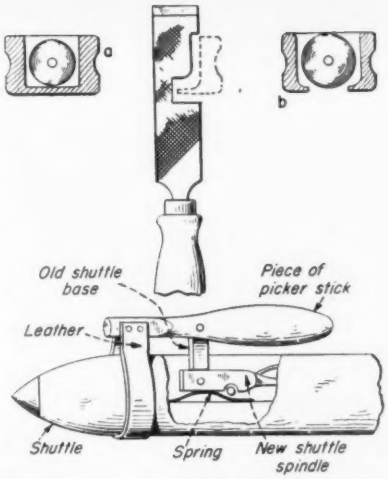


A portable lift truck can be adapted for moving boxes, cloth trucks, etc. by the addition of a bolt, shown here, for coupling up the lift truck and the container to be moved. When the bolt is not needed, it can be removed by unscrewing the bottom nut. (K-925)

Silk Shuttle Enlarged To Accommodate Rayon

We formerly wove cloth with silk filling wound on a hand winder. When we changed over to rayon and wound our filling on the Schweiter automatic winder, we had to change shuttles in the weave room to accommodate the greater capacity of the new filling package.

The change-over left us with a large number of silk shuttles. These shuttles were of the same outside size and had the same fittings as the new rayon



Enlarging silk shuttles for use with larger-package rayon filling was done with this scraper and chisel made from an old file. New shuttle spindles were dowel-pinned with the aid of the homemade lever at B.

shuttles. When we found ourselves in pressing need for shuttles because of extremely slow delivery here (Scotland), we decided to modify some of our old silk shuttles so that they could be used. To fit the old shuttle to the new filling package, we had to enlarge the inside opening of the shuttle.

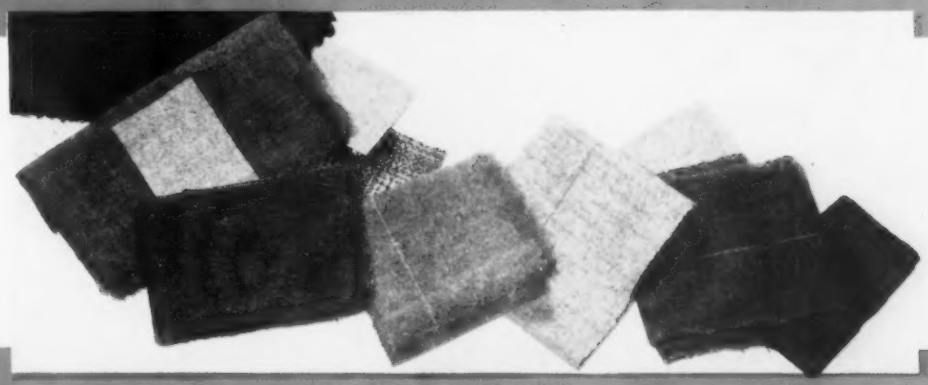
The tools shown in the accompanying sketch were devised and used for this job. The inside of the shuttle was enlarged with the hand tool shown above. The job could be done very much quicker if a milling machine or grinder were available.

The hand tool was made from an old file. We ground one side of the file to the shape shown in the sketch and ground the end to make a chisel. The bottom of the silk shuttle a was chiseled out as shown at *b*. The file was then inserted through this chiseled-out section so that the ground contour of the tool fit against one inside wall of the shuttle. The shuttle wall was scraped with the tool until the desired size and shape were obtained. Then the other wall was scraped in the same manner.

To put in the new shuttle spindle, a tool for compressing the spring in order to insert the dowel pin was found useful. The tool, shown in the sketch (bottom), was made of a piece of picker stick, picker strap, and shuttle-spindle base. The piece of picker stick was shaped into a lever and handle. The leather strap was riveted to one end of the stick so that it formed a loop that could be placed over the end of the shuttle.

Near the middle of the lever, a hole for inserting the shuttle-spindle base was made. A crosswise hole was bored so that a dowel pin could be used to

FROM SHEEP -



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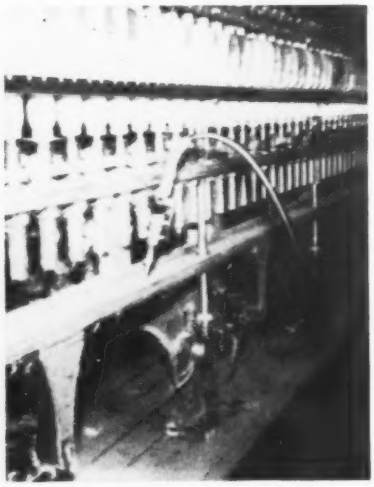
hold the spindle base securely in the wooden lever.

To use the tool, the leather loop is placed over the end of the shuttle and the shuttle-spindle base attached to the lever is placed on the base of the new spindle to be installed in the shuttle. The spring under the spindle is compressed by downward pressure on the lever. Pressure is applied until the spring is sufficiently compressed to permit insertion of the dowel pin that holds the shuttle spindle in place. *(K-905) Patrick Lamming, Sterlingshire, Scotland.*

Hole in Bolster Rail Receives Roll-Picker Blade



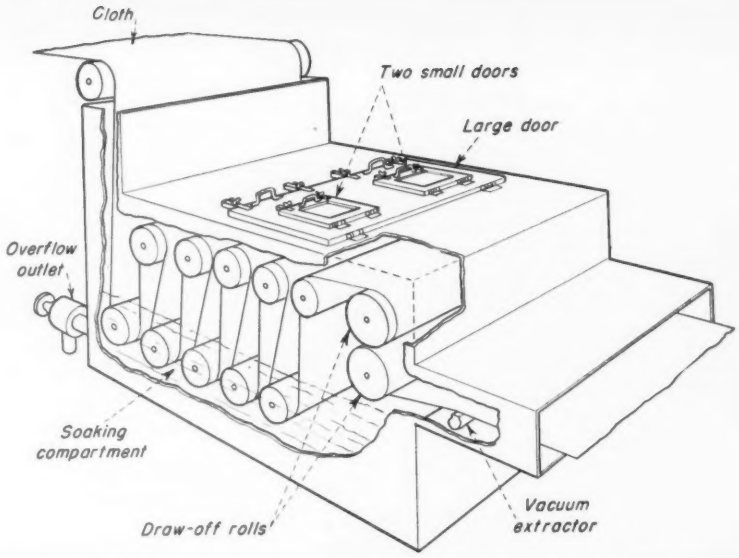
Automatic spinning-roll pickers can be placed in holes drilled in bolster rails when it is necessary for the operator to free her hands to get up an end.

We use automatic roll pickers for cleaning the rolls on spinning frames. One of the inconveniences we ran into when we started using them was that there was no place for the roll cleaner to put the automatic picker when she needed to put up a broken end.

We drilled holes at intervals in the bolster rails so that the blade of the picker could be inserted, as shown in the accompanying picture. The operator leaves the picker in the hole in the rail while she gets up an end. *(K-923)*

Soaking-Compartment Door Has Smaller Doors Added

The dry-cleaning machine in our finishing department has two compartments, one for soaking the goods and the other for drying them. In the soaking compartment, the cloth goes over several rubber rolls at the top and under several rolls immersed in the soaking solution. From the last top roll the cloth goes between two draw-off (squeeze) rolls and then to the dry cans.



Damaged or folded selvages can be more easily corrected at the soaking compartment of a dry-cleaning machine if two small doors are placed in the 200-lb. door with which the machine is equipped. Only one man is needed to raise the small doors, whereas two men are required for raising the large door.

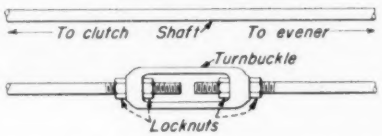
In the top of the soaking compartment, there is a door almost as wide as the machine which can be raised to expose the cloth running over the top rubber rolls. Sometimes the cloth may have a torn selvage, or the ends may not be seamed straight, and the cloth will double over on the edges. If the cloth selvage goes through the draw-off rolls and is dried in a fold, the wrinkle will cause trouble for the operator of the tacking machine. He must stop his machine and try to straighten out the wrinkle. If the wrinkled cloth should get to the fulling process, the two layers will be felted together.

It is necessary, therefore, that the operator of the dry-cleaning machine correct any selvage fault that develops in the soaking compartment. To do so, he must stop the machine and, with a helper on one side of the machine and himself on the other, lift the heavy door over the rubber rolls. He then corrects the selvage fault, lowers the door, and starts his machine again. The door in the soaking compartment weighs about 200 lb.

Lifting this door can be avoided by installing two small doors, one on each side, in the large door. These small doors need not be more than 10 or 12 in. square. They can easily be lifted with one hand.

To install the doors, cut two square holes in the large door and fasten the small doors over the holes with hinges. Clamps or door latches should be placed on the side opposite the hinges so that the door will be held firmly in place. If desired, an almost air-tight fit of the small door against the large door can be obtained by placing ordinary weather stripping around the small door. *(K-836) Paul W. O'Neil, East Chelmsford, Mass.*

Turnbuckle Adjustment Improves Clutch Shaft



A turnbuckle placed in the clutch shaft of a one-process picker will permit easy and accurate adjustment for clutch wear.

We have ten single-process pickers that utilize double clutches and evener motions. The front and back clutches are connected by a 1-in. shaft so that they work together. The front clutch is also connected with the knock-off mechanism by means of another shaft.

As the clutches wear, it becomes hard to keep them in proper adjustment. Each time an adjustment is made, it is necessary to remove both rods connected to the front clutch and bend them until the correct effective lengths are obtained.

The addition of a turnbuckle in each shaft makes this procedure unnecessary. Fine adjustment to the length of a rod can be obtained by turning the turnbuckle.

To install the turnbuckle, cut the shaft in two at about the middle of its length. Thread one end of the

SQUARE D

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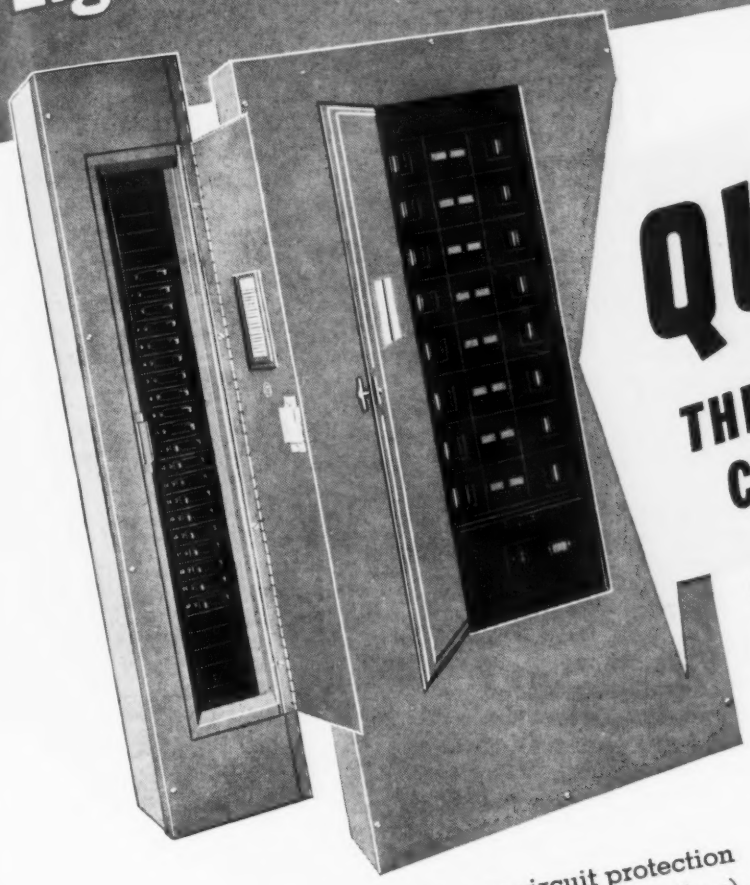

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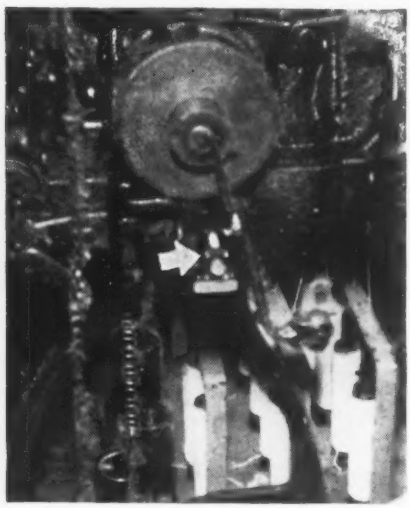
shaft at this cut with a right-hand thread and the other with a left-hand thread. The turnbuckle should also have a right-hand thread on one end and a left-hand on the other end. Run the turnbuckle up on the threaded ends of the shaft, and adjust the shaft to the desired length by means of the turnbuckle.

Since vibration may cause the turnbuckle to turn, thus interfering with the adjustment, a lock nut should be run up on each side of the turnbuckle. (K-929)

Spinning-Band Production Increased by Pick Counter



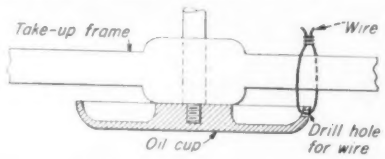
An increase of about one-third in the production of our spinning-band machine resulted from the installation of a pick counter on the machine. (K-921)

Push-Button Switches Save Electric Stop Motion

Operators of spring-needle knitting machines equipped with electric stop motions like the convenience of switches at the rear of the machines. A normal installation does not provide them. The operator must either walk to the front of the machine to stop it or use the trips of the stop motions as switches. Both are poor practices. The walking takes up some of the operator's time and energy. The trips of the stop motions are usually made of thin wire, and constant handling destroys the delicate balance. Loose-end motions, in particular, are delicate mechanisms and should be handled as little as possible to obtain maximum life and efficiency.

Rear switches may be provided at small cost. Simple push buttons can be screwed to the yarn board. The two wires may be tapped into the stop-motion circuit at the closest point. One button at each end of the yarn board of each head will give the operator a switch within arm's length from almost any position at the rear of the machine. *(K-913) Albert M. Young, Jr., Philadelphia, Pa.*

Take-Up Oil Cup Made Safe With Wire

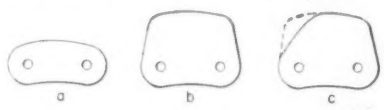


A wire holder to prevent vibration from unscrewing the oil cup in the take-up frame of one type of spring-needle knitting machine may save a costly accident or machine injury. Only a piece of wire and a hole drilled in the pan are necessary.

The starting and stopping of the machine very often loosens the threaded oil cup on a certain type of spring-needle knitting machine. Since the oil cup is a cast-iron disk about 7 in. in diameter, it can cause serious injury or major machine damage when it flies off.

It can be safely secured to the take-up frame without involved machine work. With the oil cup screwed on tightly, mark a spot on the lip directly under the crossbar of the frame. The cup is then unscrewed and a small hole drilled through the mark. A piece of ordinary baling wire can be inserted through the hole and twisted over the top of the take-up frame. The wire will prevent the cup from backing off its threads and can be quickly removed when maintenance work is to be done. *(914) Albert M. Young, Jr., Philadelphia, Pa.*

Horizontal-Striping Needles Produce Vertical Stripes



Vertical-stripe needles on an open-top machine can be converted to knitting horizontal stripes by modifying the parts shown here. High chain link b, which takes the needle out of action to form a vertical float, is cut off as shown at c so that it functions in the same manner as low link a.

An open-top machine of the Maxim "Tartan" type was originally built to produce half-hose with two-color horizontal and two-color vertical stripes. The vertical stripes are produced by floating the ground yarn for a number of wales and introducing a second thread into these wales. This job is done by means of long-tail needles selected by a special cam. The colors are introduced by means of striping fingers, controlled from chains having two lengths of links: (1) low links that bring the finger down into action (*a* in the sketch), and (2) high links that take the finger out of action (*b* in the sketch). There are four striping fingers, each with a control chain. Two fingers interchange, one pair to produce the horizontal stripes, and the other pair to produce the vertical stripes.

The type of half-hose produced on this machine has the disadvantage of not being elastic enough because of the long floats. It therefore is not very popular at present.

It is fairly easy to convert the machine to produce four-color horizontal-stripe half-hose. For this purpose, the long-tail needles are changed to plain ones, and the links in the chains are arranged in such a manner as to allow only one striping finger to be in action at a time.

The main difficulty is to get a few needles to overlap between the different colors and thus produce a continuous fabric. The second finger must come into action before the first is taken out, and at least two loops must be knitted with both yarns. This procedure is obtained with the original horizontal-striping needles. But the two vertical-striping fingers work in a different manner. One finger comes out of action before the other has dropped in, thus producing press-offs for a number of needles.

To make the vertical-striping fingers produce horizontal stripes, the first high link in the chain, which takes the feeder out of action, should be filed off as shown at *c* in the sketch. The chain will then delay the raising of the finger until the next one has dropped in. If the right amount is filed off, so that an overlap of two to four loops is produced between the stripes, good horizontal-striped half-hose can be produced on the machine. *(K-917), J. Rab, Leicester, England.*

Waste-Collection Box Is Easily Removable

Some installations of return-air condensers on spoolers have no collection chamber for catching the waste condensed from the air. In some cases, the waste is allowed to drop on the floor, into an open waste box, or into a burlap bag.

The objection to these installations is that waste is allowed to get out into the room. If the waste is exhausted

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. AUGUST, 1948

Techniques for Handling Paper Covered Cake

From the New Supplement to the booklet, "The Handling of Rayon Cakes." Write for a copy.

FILLING WINDING

1. In winding for filling, the cake is placed on the setup in the usual manner and the bottom half of the cover is turned down over the base of the cake holder.

2. The upper half is torn back to the insert, then pulled out from the cake, straightened and then tucked into the top of the insert. Tearing of the cover and lifting away from the yarn prevents disturbing the outer layers of yarn which would happen if this upper part is pulled off similar to the procedure used with knit covers.

3. The pie plate is then placed on the holder and cake is ready to run.

CAKE SOAKING

The paper being very permeable enables cakes to be handled in the same manner in treating or soaking as the knit cover. It has been found, however, that the paper cover has a tendency to trap air when the cakes are lowered into the soaking solution. To overcome this the cakes are wet out by pouring some of the soaking solution over the trays or basket before immersion in the soaking tub. The paper clings to the cake allowing rapid pick up of solution and eliminating the air pocket which would form between the paper cover and the yarn.

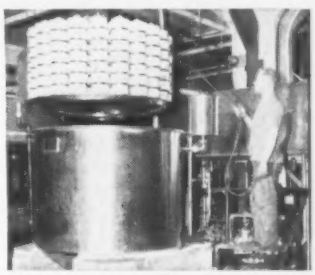
After soaking is completed the surplus liquor is allowed to drain from the cakes and they are extracted in the usual manner. Before drying, the yarn should stand a few minutes to give the paper a chance to dry on the inside of the cake which makes opening and shaping easier when placing on the dryer pole.

After drying the yarn is conditioned in the usual way and is ready for winding. In winding the same procedure is used in the setting up of the cake as described above for filling winding.

New Paper Cover* for Avisco Rayon Cakes Eliminates Return Problem of Knitted Covers

New one-way paper cover protects yarn . . . does away with returns.

Good running qualities because paper cover does not disturb yarn alignment.



Paper-covered cakes being processed on a commercial scale.

A disposable tubular paper cover for rayon cakes has been developed by American Viscose Corporation.

This innovation means that the handling problems, bookkeeping included, entailed by the more costly, non-disposable knitted covers can now be eliminated.

The paper-covered cake has already been successfully used by many mills and its practicability clearly demonstrated. Not only have users found it more convenient, but in many cases superior efficiency is reported. Their experience indicates that the cakes are more likely to remain undisturbed during shipment, minimizing waste and promoting greater efficiency in unwinding and throwing. Because of its permeability and high degree of wet strength excellent results have been obtained in soaking, dyeing, drying and extracting.

* Patented

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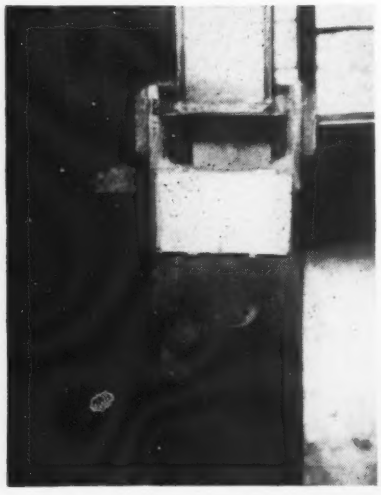


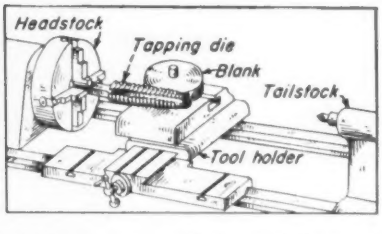
Waste collection at the return-air condenser of some spoolers can be improved by the use of the box shown here. The drop door of the box facilitates moving the box so that it can be emptied of waste.

into a bag, the bag must be emptied regularly to insure easy air filtration; otherwise, the efficiency of the spooler fan suction will be lowered.

We have devised a waste-collection box that works satisfactorily. It is made of wood, as shown in the accompanying photograph. The dimensions of the box are such that the lower end of the waste-exhaust duct fits snugly inside the top of the box. The box sides extend 3 or 4 in. above the end of the duct. One side of the box is fitted with a drop door as shown.

The drop door permits the box to be removed from under the waste duct and emptied. It can then be slid back into place. *(K-920)*

Small Worm Wheel Was Cut on Lathe

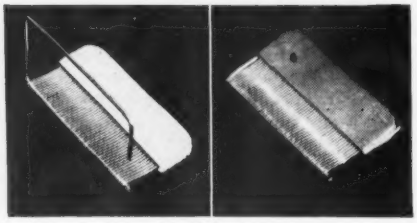


Cutting a worm wheel on a lathe can be done by mounting the wheel blank on a free spindle on the tool holer. The worm die, mounted in the headstock, will index the blank.

For a particular job on our wrap reel, we needed a worm wheel that was not on hand and could not be obtained readily. We decided to make it. Since we did not have a milling machine available, we had to use a lathe.

We cut the worm-wheel blank and fitted it on a free-running spindle on the tool holder. Next, we determined the proper pitch tapping die to use. The die was mounted in the headstock and the lathe started. As cutting proceeded the wheel blank was indexed automatically by the die. It was necessary for the lathe operator only to feed the blank to insure proper cutting. *(K-906) Patrick Lamming, Sterlingshire, Scotland.*

Use of Guide Leads Speeds Tricot Thread-Up



Threading in a tricot warp can be speeded up by the use of guide leads similar to the one shown here. The operator at the back of the machine fills the lead with loose warp ends and places it where the front operator can reach it. Three leads will be needed by each pair of operators.

Threading in warp yarns on a tricot knitting machine is sometimes a slow, tedious job. One practice is for one man at the back of the machine to hand the warp yarns over the machine to another operator at the front. The second operator threads in the ends.

Two or three devices similar to the one shown in the accompanying illustration are a considerable help in threading in a whole warp that has been cut out or that has the tape off the ends. I have seen two men pick up a whole warp for a 168-in. machine, place the yarns back in the points, and thread them in in 1½ hr. The device is useful also when only six or eight ends are out.

The device is made from a discarded guide lead off a tricot machine. The top of the guide was cut off and a groove cut along the top edge and ends of the lead. A length of wire was bent so that one end of it could be pushed over the top of the lead and fit into the grooves on the ends and top of the lead.

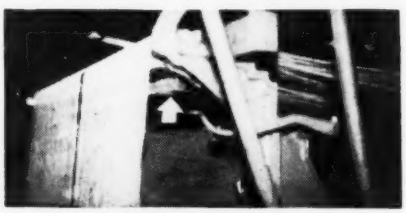
To use the guide, the operator at the back of the machine pulls the loose warp ends tight with one hand and removes the wire from the lead. The warp yarns come off the beam spaced so that the operator can hold the guide lead under the warp ends, with the guide wires up, and let one warp end fall into each space between the wires. When the spaces are filled with one warp end each, the operator inserts the end of the bent wire through the eyes in the guide wires. The ends of warp are doubled back over the lead and are held there by the wire pressed into the grooves.

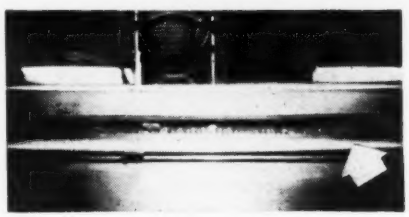
The lead of warp ends is placed on the warp or machine convenient to the operator at the front of the machine. The back operator then repeats the operation, filling another guide lead.

The front operator brings the lead of ends over the machine, puts the ends in the points, and threads in one end at a time. After he has practiced using the guide lead, he can hold the ends with a little tension on them and push the lead under the guide bar where the ends are out. Each warp end will go between the guides, and the operator can pull the ends through the guide eyes on the machine by letting each end slip from under his forefinger.

When the front operator empties a guide lead, he places it where the back operator can reach it when he needs it. *(K-895) J. A. Sullivan, McMinnville, Tenn.*

Brush on Warper Roll Prevents Yarn Lap-Ups





A delivery-roll brush installed beneath the roll on a Barber-Colman warper keeps the roll clean and prevents broken ends of yarn from winding around the roll.

The delivery roll of the Barber-Colman warper sometimes accumulates gums and waxes that interfere with the yarn pulling over the roll. Also, broken ends may wind around the roll, holding the thread-guide knock-off so that the warper is not stopped. Besides having to be cut off the roll, a lap on the roll tends to break other ends.

We have found that a brush installed under the roll as shown in the accompanying picture will keep the roll clean and prevent yarn from winding around it. *(K-918)*

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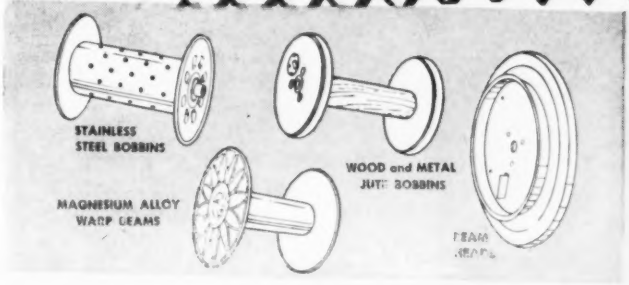

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Select Finishing Equipment To Suit Particular Needs

Technical Editor:

What machines would be necessary to install an up-to-date dyeing and finishing plant for rayon fabrics? (9252)

It is difficult to give the particular machines and equipment you will need, since you did not state whether you plan to run spun rayons or filament rayons in flat fabrics and did not indicate the size of your operation.

Preparation. For spun rayons—sheers, crepes, and also heavyweight fabrics—you will need an open-width, tensionless preparation machine. Certain filament-rayon fabrics can also be processed satisfactorily on this type of machine.

A tensionless, continuous-rope preparation range that will handle goods through several operations in tandem is also available. Processes such as desizing, washing, scouring, washing, bleaching, and washing can be done continuously. It will require a large volume to justify this type of operation. On a small scale, these operations are carried out in individual becks; but the becks can be arranged in tandem, so that the goods can be run from one to the other continuously. This latter arrangement again requires considerable volume to make it practicable.

For slack drying after dyeing, there are the loop drier and the conveyor type drier. For preparing flat work, it is best to use a tensionless jig.

Dyeing. You have a choice also in the selection of dyeing equipment.

Many spun-rayon fabrics are dyed in becks, of the same type or similar to the becks mentioned in connection with preparation processes. Both spun and filament rayons are often pad-dyed. Still other choices are equipment for the relatively new DuPont continuous pad steam methods and the Williams-unit range for fast-color dyeing.

Finishing. Flat work is usually

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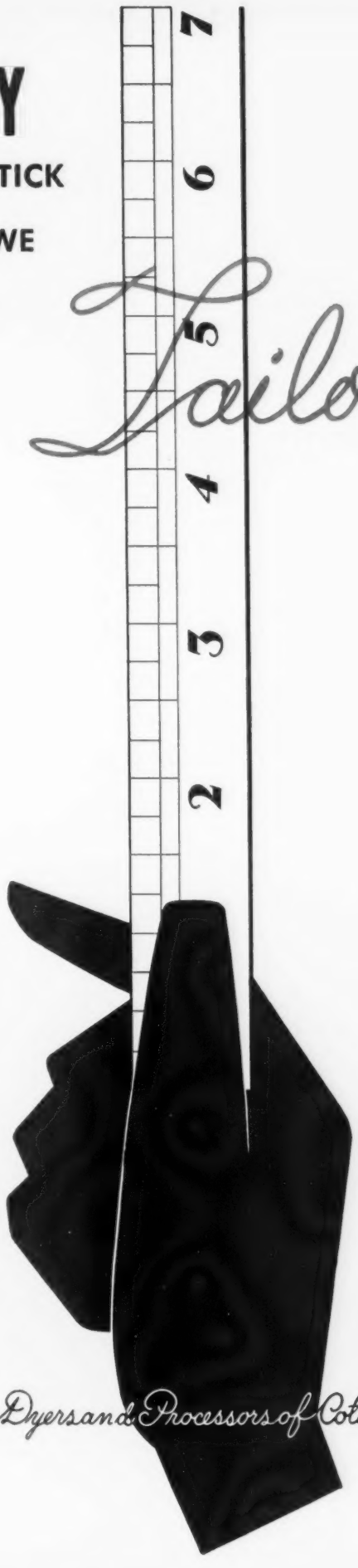

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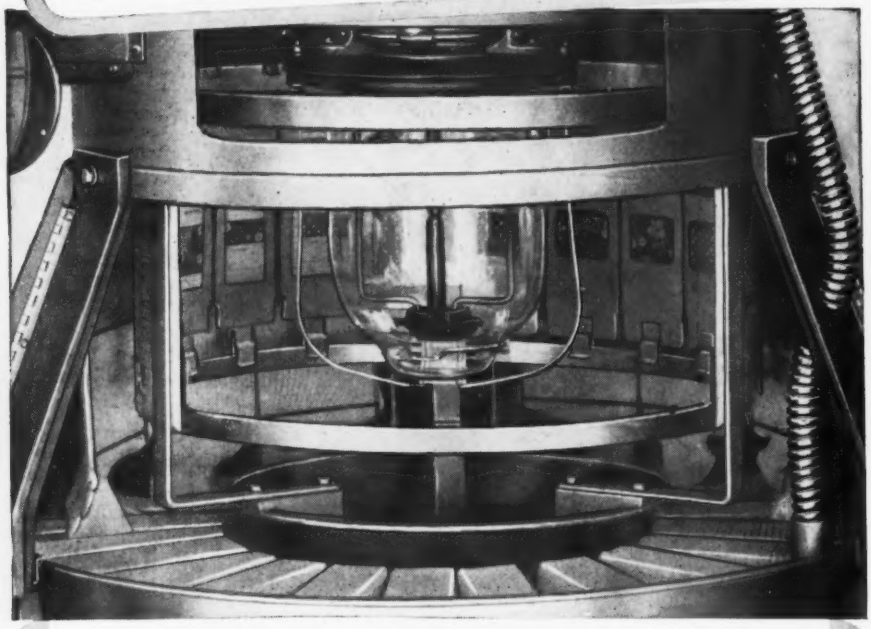

A lower ring engaging the new modified specimen holders supports the specimens during exposure in such a way as to assure a more equal distribution of energy for all samples.

Developed at the request of and in cooperation with the A.A.T.C.C. Committee on Fastness to Light the new holders and lower ring prevent discrepancies in test results caused by unequal distances from the specimen to the light source resulting from improper alignment of the holders.

This new method of suspension improves accuracy of test results since it materially reduces the possibility of deviation of the specimens from the vertical due to the human element or for mechanical reasons.

The lower ring can be installed on all Model FDA and FDA-R Fade-Ometers now in operation, adapting them for use with the new type specimen holders. In addition to the holders finished in baked-on gray enamel we now are also able to supply at slight additional cost the new modified specimen holders fabricated from a dull finish stainless steel.

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Questions and Answers (Continued)

dried on tenter frames. Tenters are often used also for drying fabrics after they have been stabilized and made crush-resistant by the application of synthetic resins. These resins are applied on a heavy pad, dried, cured at a high temperature, soaped in slack form, and framed to width. Sometimes the resin-impregnated fabric is dried on an air drier instead of a tenter.

A combination loop drier and curing unit is available for drying and curing the resin.

When it is necessary to close the goods, fold them, and eliminate break marks, they are often Palmered and decated. Flat work is usually calendered. For this job, there are a variety of calenders available.

Finally, you will need inspection and put-up equipment such as winders and folders.

The best way to approach your problem would be to determine definitely the types of fabrics you will process, the types of processing you will do, and the volume you anticipate. With these data on hand, you should confer with the manufacturers of the various machines and equipment, accumulate specifications on their equipment, and determine the equipment that best suits your needs.

Saran Monofilament Used in Plastic Screening

Technical Editor:

I am enclosing two samples of plastic screening. Can you give me the following information regarding these fabrics?

In what widths and weights are these fabrics being made to replace wire screen?

What kind of yarn is used?

What is the best weave, plain or leno?

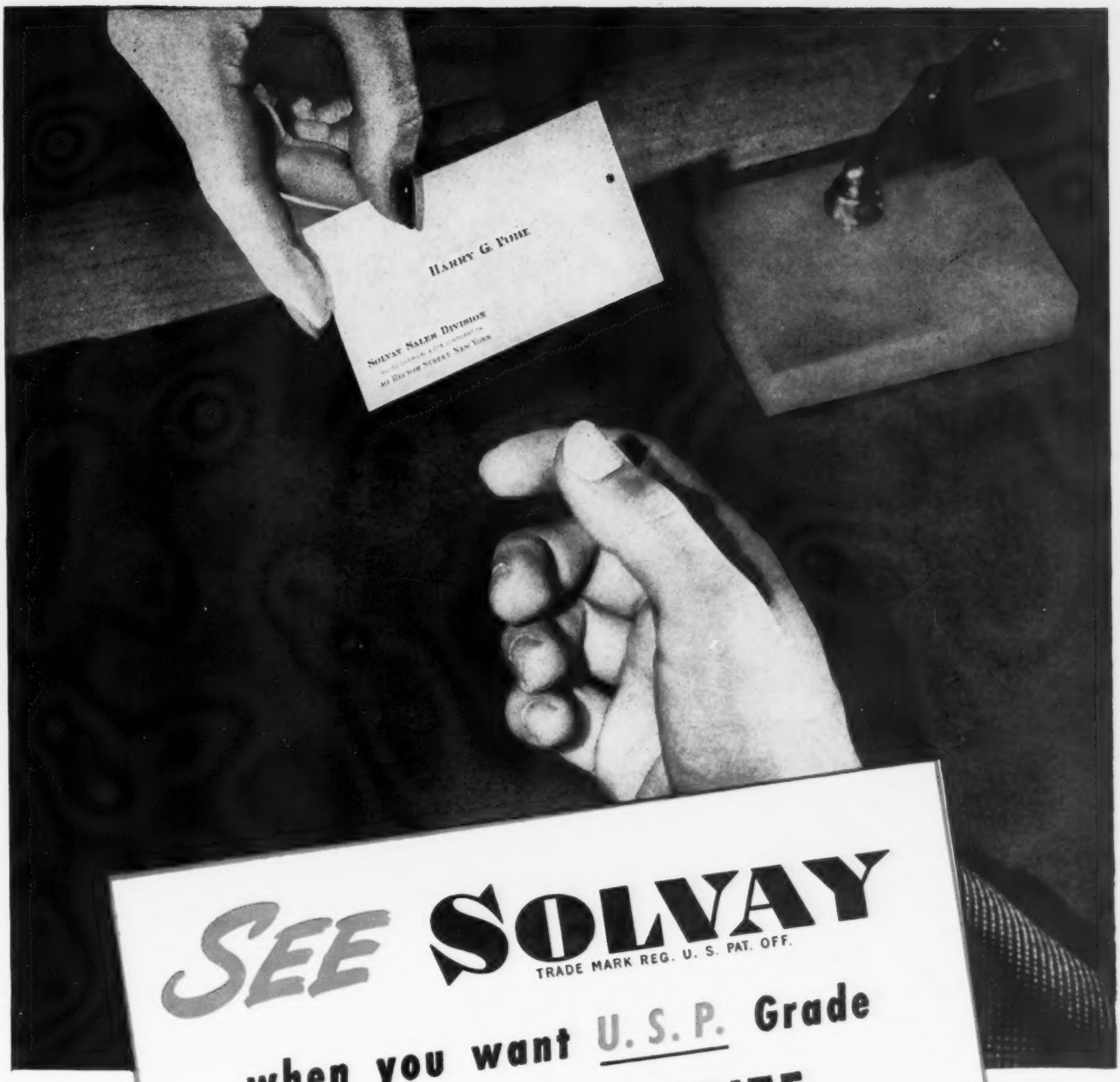
What type of loom is best for weaving screening fabric?

What process of finishing does this cloth require? (9253)

Plastic screening is generally made in four finished widths—28, 30, 32, and 36 in. You will, of course, require approximately 1 to 2 in. additional reed width to compensate for narrowing, according to the gage of the warp and filling. The heavier gages have a greater pull-in than the finer gages.

The yarn in the two samples was monofilament Saran. The advantages cited for the use of this yarn for screening purposes are that it is strong, elastic, easily cleaned, never needs painting, etc. Although green is the usual color used, other colors can be woven in order to match various home surroundings.

Saran screening constructions are



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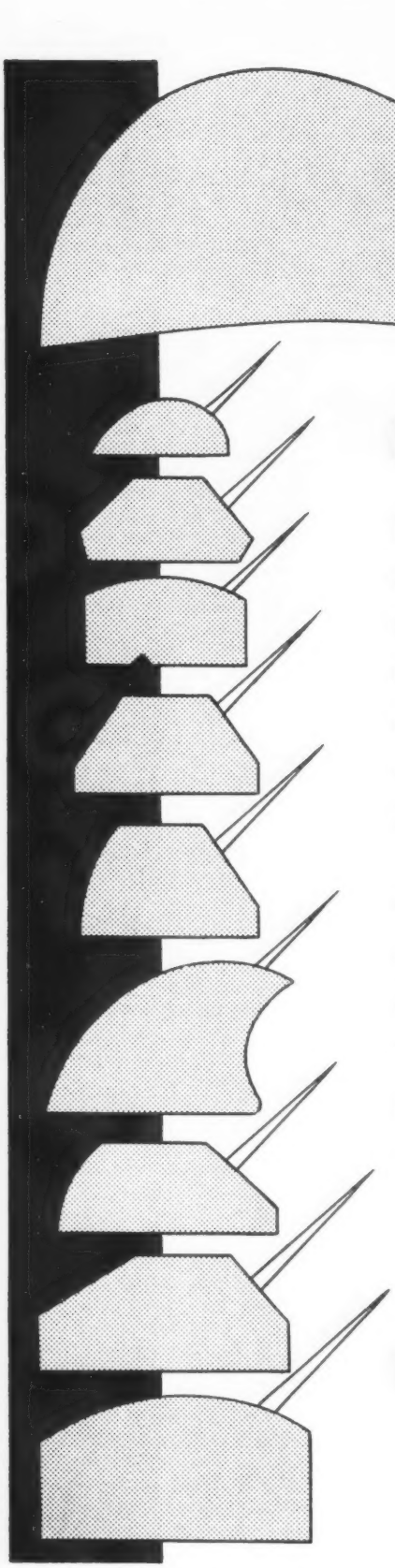

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Questions and Answers

(Continued)

approximately 20 ends per in., warpwise and fillingwise. The finer-gage sample sent had nearly 24 ends per in. Of course, there is no rule on mesh. It can be constructed finer or coarser; but the balance of warp and filling should be uniform, and the mesh must be fine enough to prevent shifting of the yarns.

The weaves of the two samples were plain.

A Crompton & Knowles loom of approximate 42-in. reed width would be well suited for weaving the screen; but loom width is not a critical factor, providing, of course, there is sufficient width. It is logical to use the loom on hand; but for a new plant going into this line and specializing on this type of yarn, a loom for this purpose should be secured. The take-up gears on most looms are rather light for the strong pull required on the screen yarns. This disadvantage could be offset somewhat by a special take-up that utilizes steel-cut gears of heavier teeth and wider face. The take-up stands could also be heavier to prevent breaks. A low take-up roll, with heavy sandpaper on the take-up drum, would also be helpful.

Generally, the cloth comes off the loom ready for the market. In instances, it may require a wash to remove surface dirt accumulated during processing. Of course, inspection and picking by hand are necessary in order to remove long waste ends.

A calendering process is desirable, though probably not a necessity. The calender heat serves to set the yarns, giving the screen a slight stiffness, making distortion of the woven pattern more difficult, and also giving the fabric a smoother feel.

Mending Knit Goods May Not Be Economical

Technical Editor:

Can you give me any information regarding the repairing of damaged knit goods? (9254)

The process of mending knit goods is not very intricate. The object is, of course, to restore the strength and wholeness of the fabric as inconspicuously as possible. If the damages you encounter are the usual drop stitches and holes, mending can be done in two ways.

The first method, used for drop stitches and small holes, is to re-form the stitches in the same manner and position as they were originally. This is usually accomplished with a mend-

(*Continued on page 174*)

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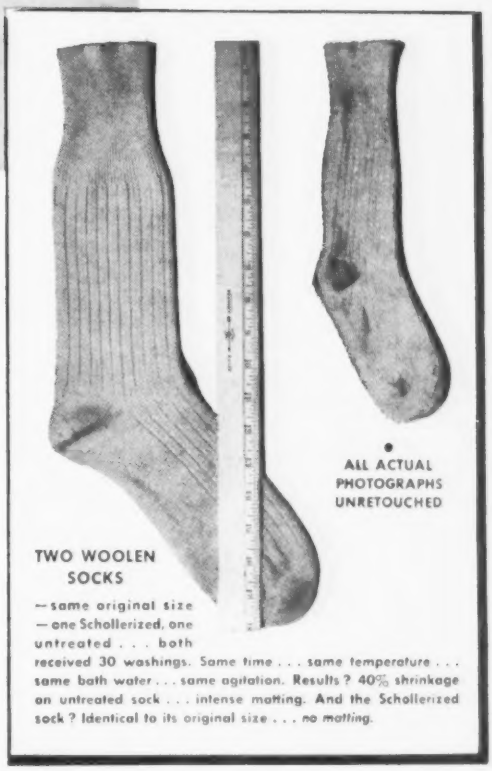

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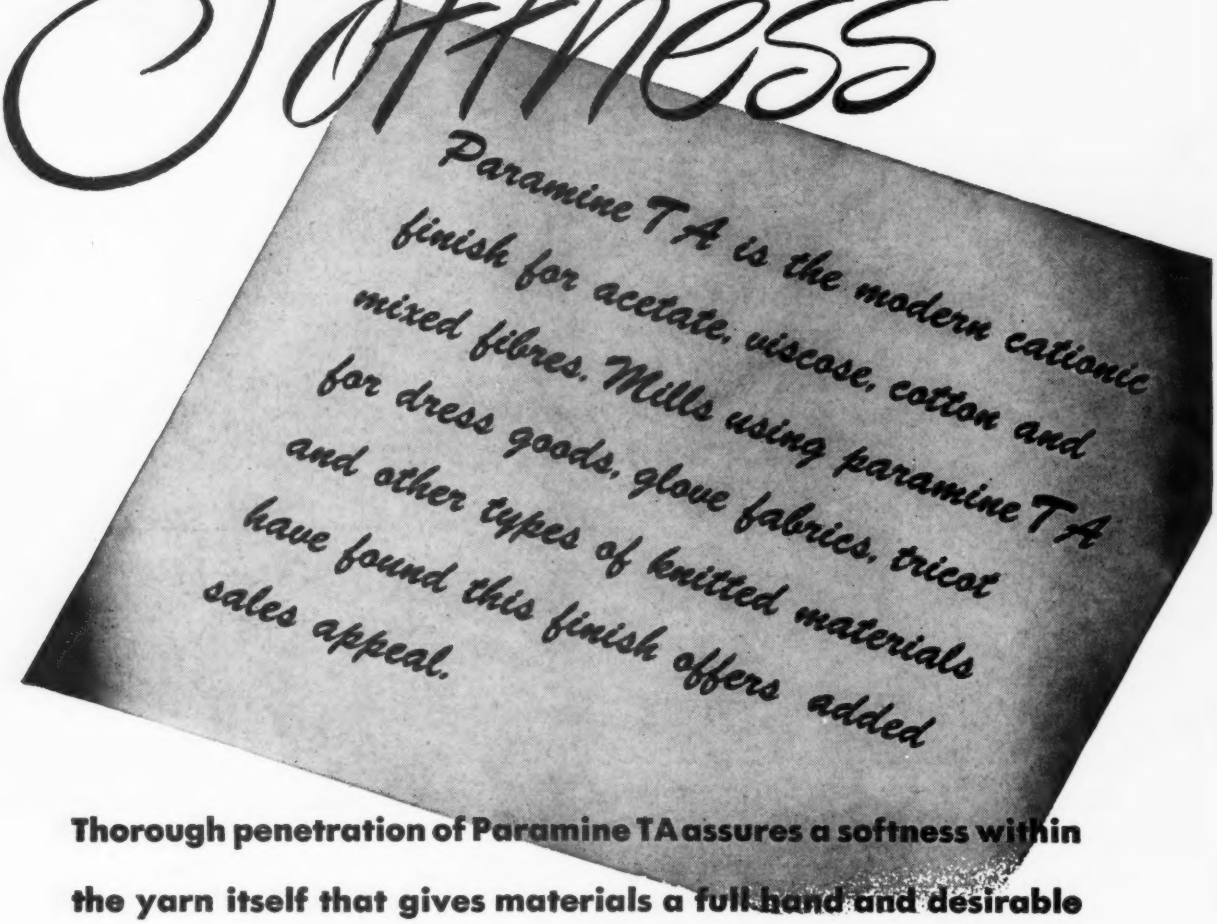
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MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. Industrial air conditioning with special applications to textile mills is described in a booklet offered by The Bahnson Co.

2. Roller bearing selection, mounting, and design are covered in a catalog issued by Rollway Bearing Co. Installation data and load-rating tables are also included.

3. Materials handling is accomplished faster and at lower cost with their new prime mover, according to a descriptive folder issued by Bell Aircraft Corp.

4. Bobbins for cotton, wool, silk, and jute are described in a folder issued by Barnsley Bobbins. A section on steel and aluminum bobbins is also included.

5. Simplified water treatment for effective slime and lime-scale control with a specialized chemical material is described in a new service report released by Oakite Products, Inc.

6. A.C. generators of the high-speed, revolving-field, synchronous type are discussed in a folder from Columbia Electric Mfg. Co.

7. Achievement of quality is the only purpose of the drawing frame, according to a folder offered by H&B American Machine Co. Features of the company's drawing frame are also pointed out.

8. Protect that roof! A new roofing-repair process system is spotlighted in a folder issued by United Laboratories, Inc.

9. Full a.c. operation of a pH meter with the accuracy and dependability of battery-operated instruments is explained in a National Technical Laboratories bulletin.

10. Determination of nylon-fiber content in fiber mixtures is outlined in detail by a technical service bulletin released by E. I. du Pont de Nemours & Co.

11. Corrosive-fluid containers for almost 400 different liquids and gases are described in a bulletin published by Fischer & Porter Co. Fittings, floats, and packings are also discussed.

12. "Daylight in Industrial Buildings," a 36-page booklet outlining the advantages that Insulux glass block offers to owners and operators of industrial buildings, is being offered by American Structural Products Co.

13. Unwinding and cutting textile fabrics from rolls and how it is done by their new machine is described in a folder from Sjostrom Machine Co.

14. Switch to diesel-electrics and save both time and money, according to a General Electric bulletin which outlines specific case histories.

15. For repair of ruts and holes in concrete or wood floors refer to "Over the Rough Spots," a publication of Stonhard Co.

16. Hydro-extractors that are direct electrically driven, self balancing, and high speed are described in a booklet released by Thomas Broadbent & Sons, Ltd.

17. Pumps for abusive service are presented in a new bulletin released by Nagle Pumps. Pumping of corrosive or hot liquids and abrasive or heavily laden mixtures is also discussed.

18. "Sidewalk appeal" is claimed for a dispersed black for use in darkening air-entrained concrete. It is described in an A. C. Horn Co., Inc. folder.

19. Twelve reasons why metal feed aprons are preferred by a growing list of textile manufacturers are discussed in a folder released by Sjostrom Machine Co.

20. Latest developments in all-electric, adjustable-speed drives for a.c. circuits are covered in a bulletin offered by Reliance Electric & Engineering Co.

21. "Solving Industrial Crimes" is the title of a booklet on graphic instruments recently released by The Esterline-Angus Co., Inc.

22. High drafting by the No. 3 model high-speed draft frame is described in a comprehensive bulletin issued by Platt Bros., Ltd.

MILL EXECUTIVES may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.

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24. Ventilation problems for industrial buildings are discussed in the 1948 catalog of Powermatic Ventilator Co. Specifications and pictures of installations are included.

24. Economical vibration control to isolate machines effectively is accomplished by Vibracork according to a bulletin released by The Korfund Co.

25. Six instruments for various types of control in cotton-mill operation are described in a bulletin issued by Taylor Instrument Co.

26. Radiant-heat processing is described in a new booklet announced by the Westinghouse Electric Corp. Infrared heating provides more heat per dollar, according to the release.

27. The importance of identification of textile products is explained in a publication of the Kaumagraph Co. Dry transfers, embossed seals, Prestomarks, and lithography are covered in the bulletin.

28. Bushings for oil distributing and other uses are described in a new catalog issued by Moccasin Bushing Co.

29. Contaminants in lubricating oil are measured easily by use of a new set of equipment described in a pamphlet prepared by the Gerin Corp.

30. Mechanical leather packings are described in detail by a handbook issued by the American Leather Belting Assn. Design and application are covered, along with several detailed drawings of leather packings.

31. A multiblade cylinder beater combining desirable features of both blade and cylinder beaters is described in a folder offered by Aldrich Machine Works.

32. An outline of the principal steps in developing an average ball-bearing mounting is given in a booklet issued by New Departure Div. of General Motors Corp.

33. A color selector for industrial finishes has been prepared by Oliver Johnson & Co., Inc. Industrial enamels, floor enamels, wall paints, and identification paints are included.

34. Q-Floors and Q-Panels are described in detail in literature recently released by H. H. Robertson Co. Three pamphlets illustrate current and proposed uses for this new type of building material.

35. Sanitary rest-room facilities are assured through use of ultraviolet irradiation, according to a leaflet released by The Ginsberg Machine Co., Inc. An ultraviolet toilet seat and germ-killing, odor-control accessories are described.

36. "Old Dyers, Old Books, and Old Methods" is the title of a booklet on the history of dyeing and finishing released by Dexter Chemical Corp. Sidney M. Edelstein is the author.

37. Mildewproofing and rotproofing by use of a new compound is described in a technical bulletin issued by Sindar Corp. The bulletin covers chemical and physical properties, toxicity, fungicidal activity, and methods of application.

38. Electric speed indicator for continuous speed indication is described in a folder offered by Reliance Electric & Engineering Co.

39. Power-driven brushes, claimed to be as strong as steel and as workable as wire, are described in a booklet issued by The Fuller Brush Co. There is a special section on textile applications.

40. Automatic spinning control to eliminate uneven packages and tails is shown in a leaflet released by Numo Machine and Engineering Co.

41. Activated carbon is the essential element of a new type of air-recovery unit described in a pamphlet issued by W. B. Connor Engineering Corp. The equipment uses the same principle as a gas mask.

42. A wrist-action shaker for general laboratory use has been developed by Burrell Technical Supply Co. Details are discussed in a recent leaflet.

43. Drainers for continuously removing condensate from evaporators, heaters, steam lines, etc. are described in a folder offered by Cochrane Corp. The publication includes several excellent sketches and much tabulated data.

44. Rust prevention by means of a thin, clear finish deposited on metal surfaces is described in a bulletin issued by Bachrodt, Newell, O'Kane, and Gano.

45. The "New Look" for industry is accomplished with stainless steel according to a leaflet issued by American Iron and Steel Institute.

46. How to get profits from inventories is described in a booklet offered by Remington Rand, Inc. The booklet pictures several modern methods of simplifying stock management.

47. Detailed engineering information on the selection, fabrication, and use of stainless-steel tubing and pipe is provided by a 92-page data book published by The Carpenter Steel Co.

48. Dormant platform scales featuring outboard bearings and all-steel construction are outlined in a folder prepared by Yale and Towne Mfg. Co.

49. Counting, electrically and photo-electrically, is described in an illustrated bulletin issued by Production Instrument Co. Parts, cartons, cases, boxes, operations, etc. come under the scope of the bulletin.

50. Roof-Cooler removes the greatest amount of building heat at its source, according to a folder prepared by Siegfried Ruppright. As much as 50° can be added to the temperature of the interior of a building without roof cooling, the folder states.

TO GET MORE INFORMATION

1. Fill out completely *one space* (name, title, company, address, and item number) *for each* bulletin wanted. Put only one number in each square.

2. Use only bottom card if ordering one to four pieces, both cards if ordering five to eight.

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Light weight, high strength to withstand tremendous crushing pressure of modern yarns. Balanced for high speed production, true running.

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Model 20 Model 30

ANSUL CHEMICAL COMPANY
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Questions and Answers (Continued)

(Continued from page 168)

***A mending hook** similar to this one is ordinarily used in repairing small damages to knit goods.*

ing hook similar to the one shown in the accompanying sketch. The mending hook is used in the same manner as the latch needle is used to make mends at the knitting machine. The hook seems to be preferred to the latch needle by most menders.

To form the stitches with the mending hook, the hook is inserted from the front into the loop of the lowest perfect stitch. It is then pushed up in back of all cross threads until the next perfect stitch is reached. The hook is entered into the loop of this stitch from the rear, and the loop is pulled down to a point where the first cross thread can be engaged by the hook. The cross thread is caught, pulled through the loop, and down.

These movements form a new loop and a new stitch. The operation is repeated until all loose cross threads have been formed into stitches. Care should be exercised in applying tension so that all loops will be uniform.

When the last cross thread has been formed into a loop, there will be two loops on the hook. A short length of the same yarn used in the cloth is employed to tie these loops together. Knots should be small and have short ends. The ends should be pulled through to the off side of the fabric. If the damage is a small hole, it is wise to select a line of stitches near the center to work on first. Drawing the center of the hole together makes the other stitches easier to handle.

The second method of mending is used for large holes. This method closely approximates old-fashioned darning. The loose stitches are secured by running the mending yarn through the loops. The hole is filled in by

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ON THE MARK with Medley quick roll repair service . . . GET SET to meet increased production schedules . . . GO for better slubbing, roving and spinning with fewer ends down . . .

By co-ordinating the efforts of three strategically located and capably staffed plants, Medley is able to offer roll repair and replacement service to mills in any of the country's textile centers.

Medley's unique method of restoring the outside diameter of metallic rolls to their original dimension without affecting their hardness or wearing quality has meant important savings to operators throughout the industry. This service is designed to reduce idle machinery time to a minimum and to make for maximum efficiency in operation.

Check today . . . let Medley show you how idle machinery time and lost man-hours can be saved by using this valuable roll repair service. A postcard or a call is all it takes.

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DRAWING ROLLS

The famous Medley Sealed-in Ball-bearing, permanently lubricated top drawing rolls are standard equipment on Medley "8 Ends Up" or conventional 6 ends up drawing frames. Also, any standard make drawing frame can be changed over to this more efficient drawing . . . capable of adjusting to draw any fiber in staple lengths from 5/8 inches to 13 inches.

Investigate this better drawing roll.

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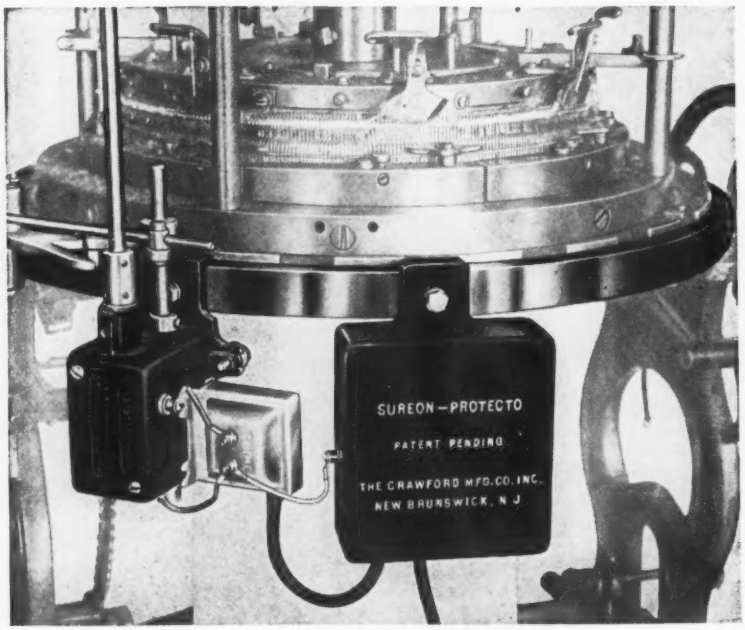
PROTECT

Your machines with Crawford's Sure-Stop

SUREON-PROTECTO BOX



As a user of Electric Stopmotions on your knitting machines, you have undoubtedly noticed that the knitting machine continues to run when the current supplying the stopmotion is discontinued. For full protection, the machine should be stopped.

The CRAWFORD SUREON-PROTECTO BOX has been designed to protect the knitting machine when the current goes off. If a fuse blows on the lighting line, or the transformer fails, or if the plug which is attached to the stopmotion is accidentally pulled out of the socket, the Sureon-Protecto Box will instantaneously and automatically stop the knitting machine. This prevents serious smash-ups. This box can easily be attached to Electric Stopmotions already in your mill, and may be ordered when placing new orders for stopmotions directly with us or with the machine builders.

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Questions and Answers

(Continued)

weaving the mending yarn back and forth.

Care must be taken in mending holes so that no lump appears above the surface of the cloth. This is especially true when the mending is being done in the gray on fabrics to be napped and sheared. If a hard lump is formed, it may damage napper wires. If it extends too high, the shear blades may cut it and the hole will be opened again.

Experience is more necessary when pattern fabrics such as tuck stitch are handled. Although the stitches cannot be replaced exactly in such patterns, the color balance must be maintained. It is obvious that when light and dark areas are present the proper color of yarn must be used in each to avoid distorting the pattern.

It is seldom practical to mend very large damages. The mend is nearly always apparent, and the cost of mending is usually prohibitive. It is a better practice to make the usual ¼-yd. allowance and forego mending.

Preshrinking Tapes Is Difficult Job

Technical Editor:

We are interested in shrinking narrow tapes under ¾ in. in width. Some of them are bleached, some are in the gray, and some are dyed. We should like to process them in such a way that there will be no shrinkage—or practically none—left in them. (9251)

There seems to be no established method for eliminating all the shrinkage in this type of goods. So far, there are no tape-dyeing or -shrinking machines on the market to correspond with those for piece-goods processing.

Of course, the construction of the tape largely governs the amount of shrinkage. The more picks and ends per inch woven in the tape, the less will be the shrinkage.

On gray goods, it may be helpful to give tapes only a 1-hr. boil with any good wetting-out agent. In some cases, it has been found helpful to avoid running the goods over dry cans. The heart of the matter seems to be to avoid as much tension as possible on the tapes in both wet and dry processing.

Weaving Data Given For 8-Oz. Army Duck

Technical Editor:

What is considered standard performance for weaving duck on Model X or X-2 looms? We are particularly interested

for Efficient Control and Economical Use of Compressed Air...

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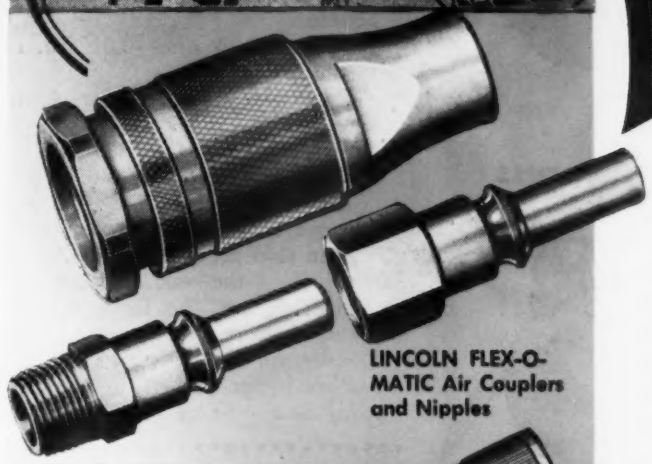

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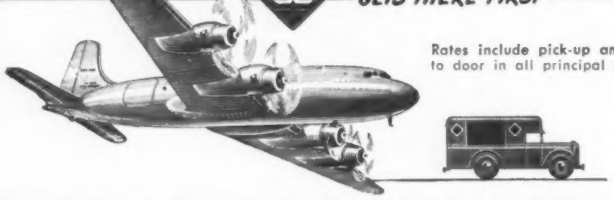

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Questions and Answers

(Continued)

in 8-oz. Army duck, 29 to 30 in. wide, woven with 2-ply warp and filling, 54 to 57 warp ends per in., and 38 to 41 p.p.i. Yarn counts will be 13s to 16s cotton.

The information we need is as follows:

Size of heddle wire
Size of drop wire
Loom speed for 36-in. or 40-in. looms
Looms per weaver (or inches of cloth)
Loom stops per hour (warp ends out)
Loom efficiency.

Would spring-top harnesses be better than roll-and-shaft top? (9250)

The following information is based on average mill conditions and, of course, will vary at different mills:

Size of heddle—standard steel heddle
Size of drop wire—0.012 in. in thickness
Loom speed for 36 or 40-in. looms—182 p.p.m.
Looms per weaver—36
Warp stops per hr.—0.4
Loom efficiency—90%.

The average mill has approximately one loom stop per loom hour. About 35 or 40% of the total stops are due to warps. Hence, the figure 0.4 for the warp stops per hour.

Usually, roll-and-shaft tops for harnesses are better than spring tops for weaving this type of goods.

Round Table

(Continued)

(Continued from page 152)

and not before, the operator has repaired the preceding one. In other words, there is no reason to believe that no two spindles will ever be down simultaneously. If two spindles are down at the same time, one of them is bound to be down more than the 0.20 min. allowed for the operator to tie up a break. As a matter of fact, a spindle might be down a maximum of 0.60 min. before any repair of the end is started. Thus, if all four ends were to break at one time, the last end repaired would be down 0.60 min. waiting time plus 0.20 min. repair time—a total of 0.80 min.

How, then, can you assume that a production of 33.06 lb. per hr. will be obtained under normal operating conditions? *(R-419)*

You are quite correct in stating that there is a possibility of two or more yarn breaks occurring at the same

If You Wish to Weave *Quality* Fabrics with *SPEED & ECONOMY* –

do as all the large and successful mills are doing over the world, by using

Ste-Hed-Co FLAT STEEL HEDDLES

America's largest Loom Harness Equipment Producers.

Only by using the most modern equipment can you expect to avoid delays and produce quality fabrics. The modern high speed Looms of today demand stronger, more durable, more flexible and better designed Heddles.

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SOUTHERN TEXTILE EXPOSITION GREENVILLE, S. C.
October 4th to 9th 1948

Your Loom is no better than the Harness Equipment you use. We have been specializing for 50 years in designing and producing this important part of the Loom.

Our Local Field Engineers will gladly discuss your needs or problems with you, or write us directly.

Profit by this experience and our unusual facilities.

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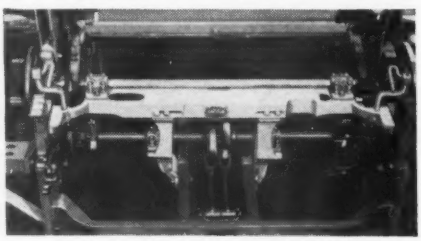
EQUIPMENT FOR MODERN WEAVE ROOMS

The craftsmen and engineers at Hunt Machine Works strive constantly for improvement in design and performance of textile machinery and equipment. The weave room machinery shown here represents the latest in tried and proved equipment.

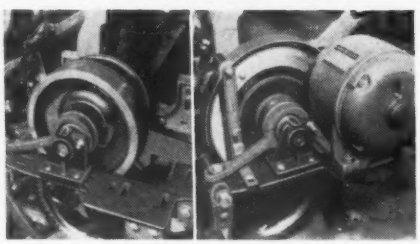
HUNT SPREADERS

When added to looms practically any make or size, patented Hunt Spreaders make possible greater stability, fabric of better quality and increases up to 36 picks per minute in output.



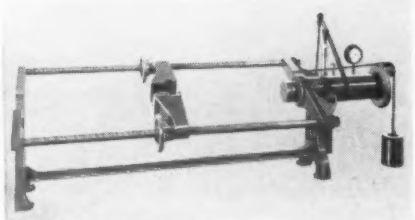
FLYWHEEL AND MOTOR DRIVES

Hunt belt-driven flywheel drives are particularly efficient when installed with Hunt Spreaders on older model looms. Hunt Motor Drive features latest model loom motors, directly attached to loom side. Integrates motor with loom, eliminates crankshaft strain. Features ball thrust bearings.



HYDRAULIC PRESSES

Model Y-20 has 20-ton capacity and will swing a 24-inch pulley. Model Y-30 has 30-ton capacity and will swing 32-inch pulley. Furnished either for hand operation or combination of motor drive and hand operation.



Hunt Rebuilt Looms will be prominently featured at the Southern Textile Exposition, Greenville, S. C., October 4th-9th, 1948. We will also show the above illustrated machinery and many other Hunt products. Look for our three booths—Nos. 128, 129, and 130.

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INCORPORATED
GREENVILLE, SOUTH CAROLINA

SUCCESSORS TO
MOUNTAIN CITY FOUNDRY & MACHINE CO., AND HUNT LOOM COMPANY

Round Table

(Continued)

time and that, when this condition occurs, there will be a loss of production due to spindle down time while the spindle is waiting for attention.

However, in checking yarn breaks during actual winder operation, we have seldom observed this condition. It is our opinion that for the job set-up described (namely, a 4-spindle task, with one break per spindle per hr.) the probability of this condition occurring is rather remote.

It must be taken into account that there will be only one yarn break per spindle during one hour. Since it requires 0.20 min. to repair the break, there will remain 59.80 min. of "break-free" time per spindle per hr. Taking all four spindles as a unit, it will require 0.80 min. to repair the four breaks expected. This will leave 239.20 spindle min. of break-free time. In other words, the ratio of down time due to breaks is approximately 1 to 300. It is our belief that with such a ratio the occurrence of overlapping breaks is definitely remote.

The effect on production, assuming the absolute maximum interference, can be determined as follows:

With four spindles down, three spindles would wait 0.20 min. each before they receive attention, two would wait an additional 0.20 min. each, and the last spindle would wait still another 0.20 min. The sum of this waiting time equals 1.20 min. for all four spindles. The loss of production, therefore, would be 1.20 min. × 360 yd. per min. (machine speed) = 432 yd., equivalent to 0.27 lb. of 1.0-run wool yarn.

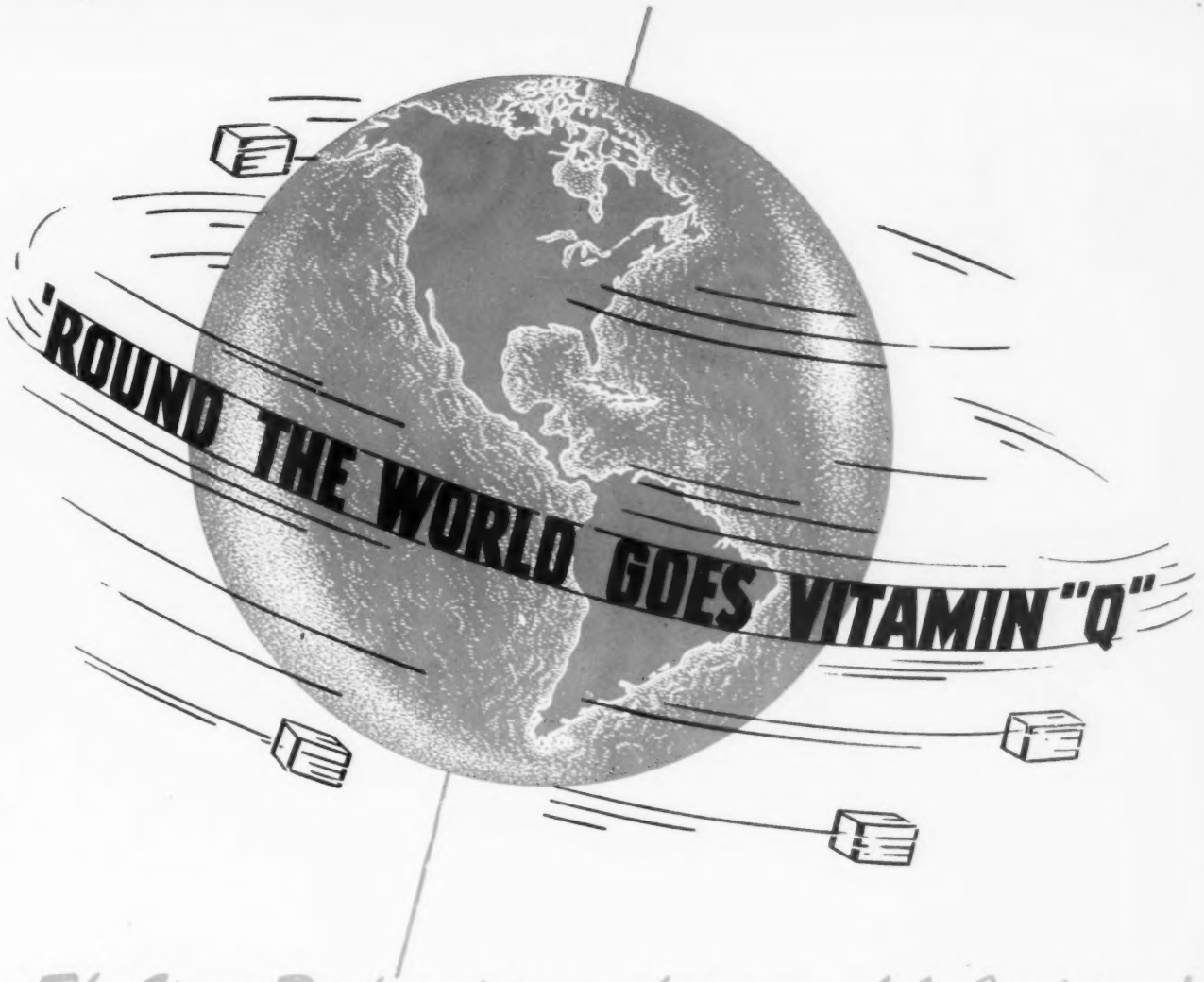
However, as pointed out above, the probability of this loss of production occurring is roughly 1 in 300. We therefore believe it would be quite correct to assume a production of 33.06 lb. per hr. under normal conditions for the task described. *(R-420) Rudolph Leppla, Passaic, N. J.*

TEXTILE WORLD Helps Technical Superintendent

I know you will be interested in the use to which we put TEXTILE WORLD.

About two years ago, we set up what we call a Technical Department in our mill. (We operate about 26,000 cotton spindles and something over 700 looms.) I have been superintendent of that department ever since it was officially set up.

Our job is to provide the mill management with any technical information it needs. We deal with time study



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The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it. Signed . . . . . .

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We emphasize packing because of the importance of yarn reaching you in perfect condition at the time you want it! Boger and Crawford Vitamin "Q" yarn is individually wrapped with a protective covering of paper, then it is inserted carefully in uniform rows in *sturdy wood* boxes, strong and durable enough to be shipped all over the world. Indeed, it *is* supplied to textile mills practically everywhere.

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Specify Boger and Crawford Vitamin "Q" yarn for Quality products.

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Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

LOWELL SHUTTLE COMPANY

Established in 1896

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job loads, job methods, cost and quality control, comparative machine and lay-out efficiencies, etc.

We find that TEXTILE WORLD is very helpful in our work. We not only read each issue; we study it. We believe that there is no better way to keep up with the industry than by keeping up with TEXTILE WORLD. *(R-417)*

Textile Migration

(*Continued from page 99*)

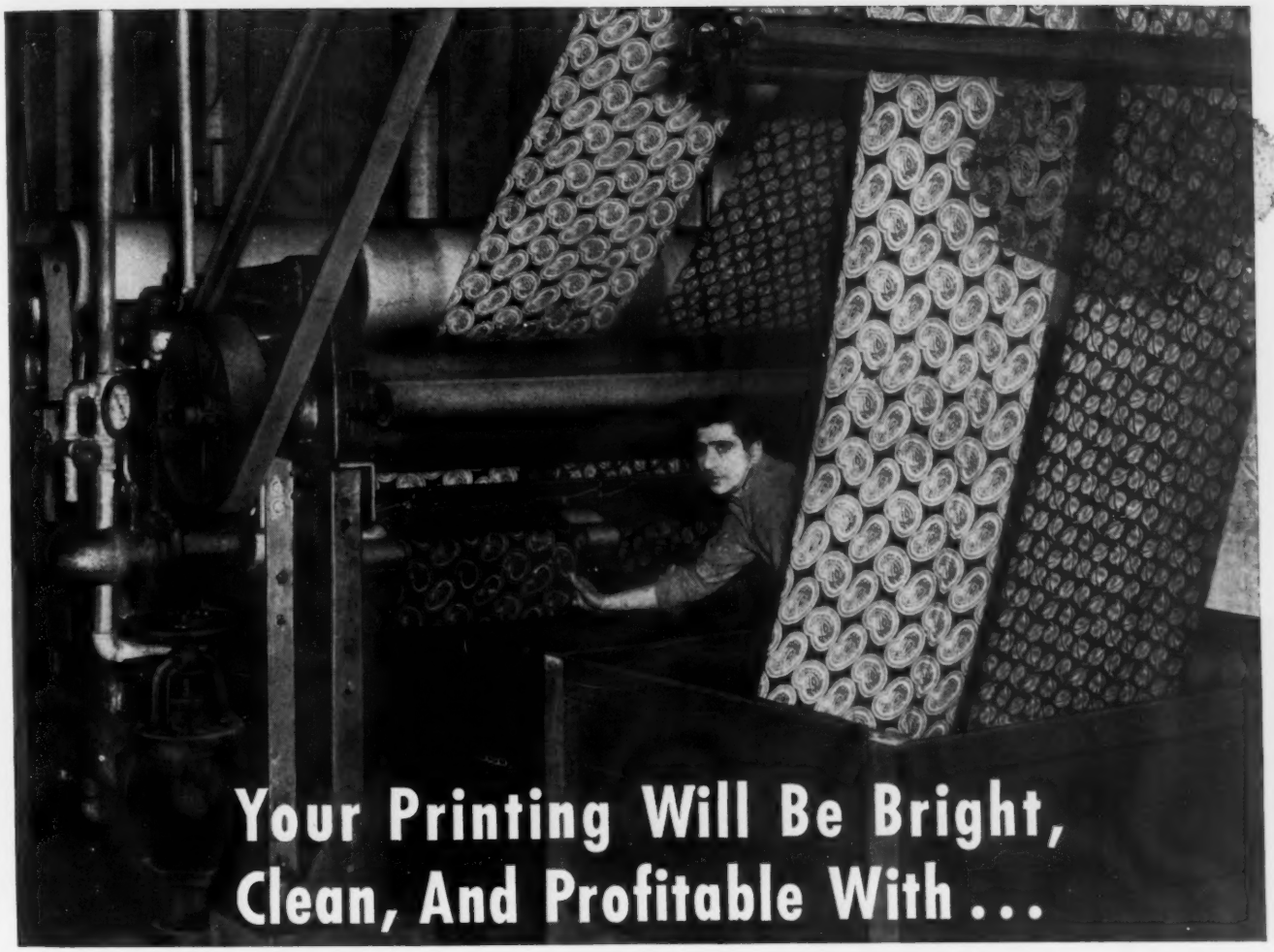
U. S. Department of Labor, into a graphic presentation of migration in 20 leading American manufacturing industries.

Among the 20 industries studied, the major sections of the country show gains over eight years (1939-1947) as high as 5.0% and losses as great as 7.2%. The figures, when averaged, show a shift in U. S. industrial employment of 3% from the Northeast to the South and West.

TEXTILE SHIFT. The figures on textiles taken from this general compilation show a loss of 4.3% in eight years in the North, and equivalent gains of 3.8% in the South and 0.5% in the West. This indicates a drift toward the South and the West together of about 0.5% per year. The textile trend, however, does not depart appreciably far from the average of all industry. Because of the textile industry's expansion, even the North now has more employed textile workers than in 1939, despite its decline percentagewise.

Even though the destructive effects of modern warfare on concentrated centers of population and industry are well recognized, there is little evidence in the figures of any consequential trend away from the metropolitan areas for American industry as a whole. In 20 such areas from coast to coast which include most of the more important cities and industries, the increase in industrial employment from 1940 to 1947 is 45%, while in all of the U. S. outside of these centers the gain is 51%. Average increase for all U. S. is 48%. These "metropolitan areas" include all with 100,000 or more industrial workers. Decentralization to small cities may ultimately become a phase of regional migration. New plants in the West and South, for example, usually go into smaller centers, because much of the area has nothing like the many giant metropolises of the Northeast or Midwest.

In the year of 1947, the migratory trend was generally speeded up; and this study indicates that more than one-half of all today's new industrial plants are going up in the South and the West, which areas before the war



A Feature to Remember!

ORATOL L-48 Gives Brighter Cleaner Shades

ORATOL L-48

The problem in the print wash operation is to remove excess pigment and paste constituents, *quickly* . . . to brighten and liven colors . . . with no waste of time or added expense.

Oratol L-48 has high foaming, emulsifying, and wetting properties . . . requisites in the rinsing process. Its powerful detergency and rapid scouring action greatly reduces any tendency toward bleeding. Oratol L-48 is stable in hard water and performs equally well on all types of fibres — under acid or alkaline conditions.

What this means to you:

1. Quick, effective rinsing
2. Brighter, livelier shades
3. Fewer rejects
4. Greater output . . . greater profit

Oratol L-48 has other important advantages; only a very small quantity is required when used alone as a print wash. If used in conjunction with soap, it increases the stability of the soap and prevents formation of soap curds. Oratol requires less water, rinses rapidly, and leaves the fabric with improved hand.

Ask our representative for full details about economical Oratol L-48. Or write today for technical data and your generous free sample for testing.

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Warehouses: Providence, R. I.; Philadelphia, Pa.; Utica, N. Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Knoxville, Tenn.

WOLF BRAND PRODUCTS

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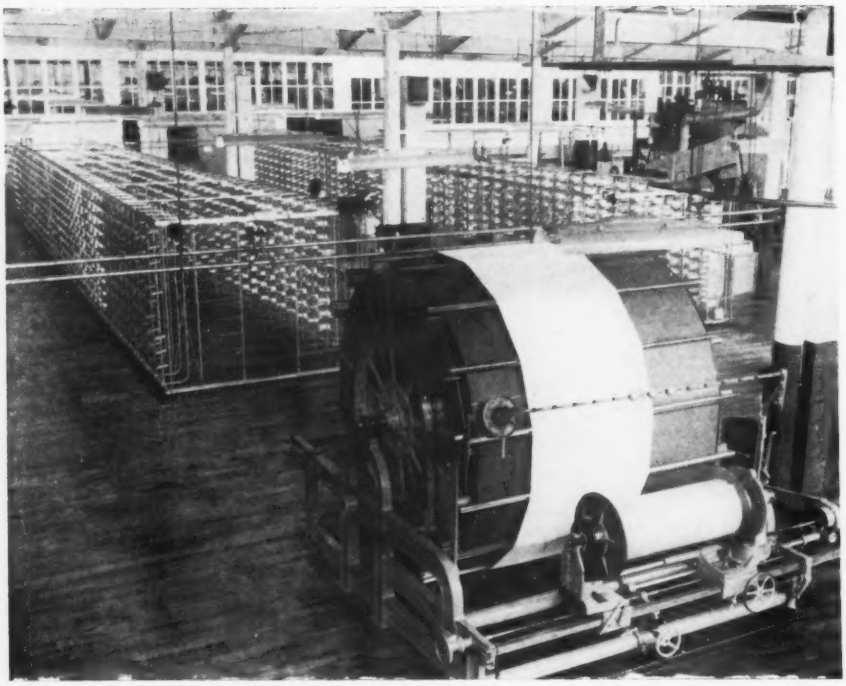
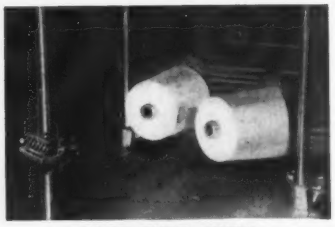
EQUIPMENT FOR BETTER PRODUCTION

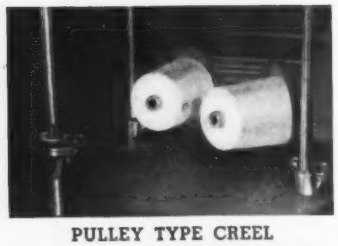


Sipp-Eastwood Over-end Magazine Cone Creel and Horizontal High Speed Warper for high speed warping from cones, spools, tubes, or pirns.



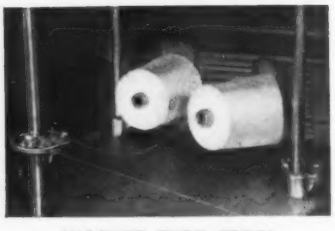
GATE TYPE CREEL

1—Our gate type creel tension of hardened steel, gray satin finish, chromium plated to resist wear.



PULLEY TYPE CREEL

2—Pulley type creel tension. Retarding action is obtained by friction applied to the rotating members—not to the yarn.



WASHER TYPE CREEL

3—Washer type creel tension. Employs double set of washers, giving perfect tension for fiber yarns, as well as for fine denier flat yarns.

Also Manufacturers of: High-Speed Overend Creels, High-Speed Horizontal Warpers, High-Speed Cotton System Warpers, High-Speed Winders and Redraws, High-Speed "Duo-Twist" Uptwisters, Tensometers, Densimeters, Static Eliminators, Semi-Automatic Leasing Devices.

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ITS A TRADE MARK SIPP EASTWOOD

had only one-fourth of existing plants. The North, which had 72% of all U. S. manufacturing jobs before the war and which got 55% of the new wartime plants, is getting only 45% of the new plants now.

These facts suggest that the migratory process is now being speeded up beyond the average rate of the 1939-1947 period. Although this inference is taken for all industries in total, it probably applies to textiles.

PLANTS, ONE PHASE. Industrial jobs and plant locations, it should be remembered, are only a part of the business picture and are not to be confused with the location of sales offices or management headquarters. The latter two elements are not part of the present study, but it is a common observation that neither of these two elements develop new locations so easily as the manufacturing element. Management may stay at a fixed location indefinitely, while its plants are strategically placed as circumstances may influence. Sales centers are so involved with habits and facilities outside the control of any one industry that their shift is slow and follows far behind plant and population shifts.

Referring to the chart on textile employment changes in the three principal areas, the data shown do not of course check exactly with the machinery and fiber data available. For example, in cotton spindles in place, New England went down from 24.3% to 21.1% of U. S., a decline of 3.2%; Southeast went up from 70.7 to 74.8, a rise of 4.1%; other regions add up to less than 5% of total. Rayon yarn received, by region of receipt, shows this picture: New England down from 29.2% to 23.0% of U. S., a decline of 6.2%; Middle Atlantic and Great Lakes together went down from 31.7% to 29.3%, or by 2.4%; Southeast went up from 37.9% to 46.6%, or a gain of 8.7%; other changes were negligible. In full-fashioned hosiery machinery, the North declined from 49.4% to 44.6%, or by 4.8%; while the South gained from 37.7% to 45.9%, or by 8.2%; other changes negligible. Seamless hosiery, already 77% in the South, went up another 3%. Several of these trends in limited branches are stronger than the over-all picture gained from employment figures, for the machinery statistics quoted do not include dyeing and finishing machinery, woolen and worsted spindles and looms, underwear and outerwear knitting machines, etc.

In terms of textiles competing with other industries for labor and facilities, only three comparisons seem worth making—those for New England, Middle Atlantic, and Southeast. In New England, textiles employ about 300,000 workers out of just over

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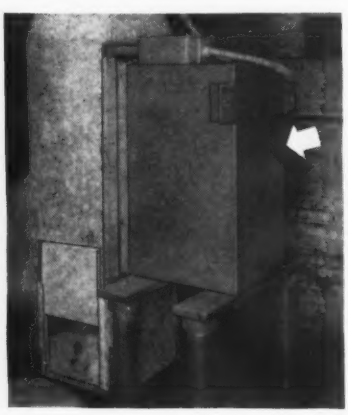
Caught in the act...

Close-Up of Tramp Iron Caught Ahead of Opener and Held Securely on Face of a Dings Textile Magnet

POSITIVE PROTECTION

DINGS High Intensity Electro-Magnets Prevent Fires Caused by Tramp Iron Sparks

Here's a positive way to stop tramp iron in the opener-picker room before it causes dangerous cotton fires. The importance of this protection is obvious when considering that even small cotton fires cause costly production stoppages. Dings Vertical Plate Electro-magnets give you maximum protection because they are the most powerful textile magnets available—will extract tramp iron eight inches from face—more than any other magnet. Simple to install in ducts and operated at negligible cost . . . easy to clean—just shut off current and iron drops into a trap . . . corrugated non-magnetic face plate prevents sparking when tramp iron strikes magnet.



Write for recommendations on the best and most economical magnetic protection equipment. *Dings has the magnet for your purpose, either Permanent Alnico or Electro.*

Dings Textile Magnet installation showing trap for tramp iron below magnet.

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1,500,000, or almost 20%. In Middle Atlantic, it's just over 300,000 out of 4,250,000, or about 7%. In Southeast, it's almost 600,000 out of 1,900,000, or about 32%. These are percentages of all manufacturing workers. Now, the labor market in each of these areas is a larger and more complicated affair than can be suggested from the manufacturing figures alone.

The two most important industrial shifts to the Southeast were in textiles and in lumber, followed by food and then by paper. The last-named three all tend to be lower-paying industries. Hence textiles in the Southeast will not be primarily affected by *shifts* of those other industries there. They are important, however, because the general labor market has tightened up since prewar, partly related to the actual migration of population from the South.

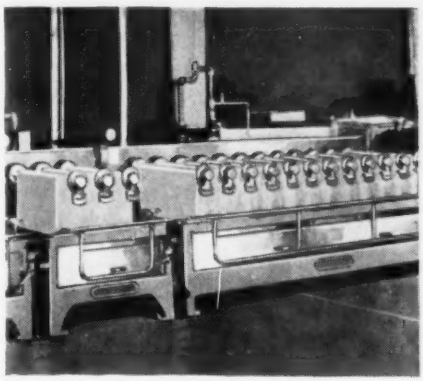
In New England, on the other hand, while most industries lost in their percentage shares of U. S. totals, such lines as steel, electrical machinery, and autos were three of the four regional gainers. In short, New England is shifting more to the durable goods industries, which pay better. That helps put a squeeze on nondurables, like textiles. In the Middle Atlantic states, the same picture as in New England generally holds, but textile employees are a much smaller part of the labor force.

So far as the other "growing regions" go—the Farm West, Southwest, Far West—they still have less than 3% of textile employment, after a 0.5% wartime gain; but they do have a much expanded and much larger over-all market in terms of population and income, 32% and 31% respectively. The trends here are for accelerated textile growth.

CHANGES ARE SLOW. Even though possessing half of the war and postwar construction, the South and West will gain only a seemingly small increase in the proportion of all U. S. industrial workers. A dozen years of accelerated migration may raise their share of U. S. manufacturing jobs from 28% to about 35%. It should be noted that migration and construction are not synonymous. Where new and better equipment has been put into old plants, there is no migration. Where old plants are replaced by new ones in another area, migration moves on the double: one state gains as another loses. Sometimes, migrating plants may even backtrack on some move made earlier in the industry's history. Whatever the over-all figures show, a close-up focus is vital for all the facts about a particular field.

Those whose main job is to supply materials for new plants may be in-

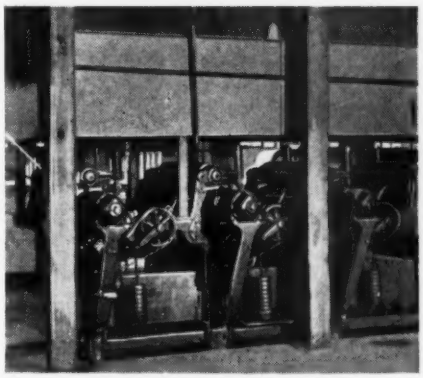
HOW THESE OPERATIONS CAN GIVE YOU THESE RESULTS



COTTON BOIL-OFF

Clean, Absorbent Cottons!

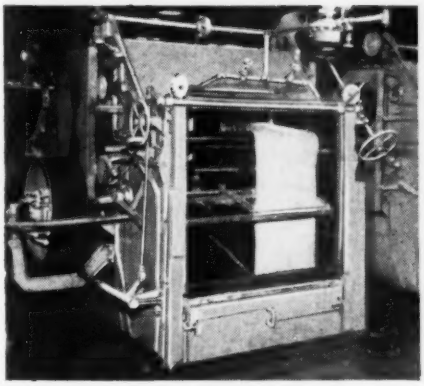
It is usually unnecessary to kier boil cotton yarn. Often a less severe open boil-off may be used. In the latter case, ARMOUR'S ENERGETIC has proved most successful. ENERGETIC is a liquid, nonionic type of synthetic detergent with excellent washing properties. ENERGETIC is unaffected by hard water, easily rinsed and effective in very low concentrations. And ENERGETIC provides remarkable suspending power for removing natural cotton impurities.



SOAPING OFF PRINTS

Clear, Bright Prints!

After printing and aging, cotton prints must be washed to remove the stiffening effect of the starches and gums used in the printing operation. This job normally calls for high temperatures and maximum detergent action. FLINT, a tallow soap especially formulated for high temperature work, is most effective in this operation. It removes the relatively large amount of gums present and also gives the goods a uniform feel or handle. FLINT thus assures clearer, cleaner, brighter, sharper prints—and more attractive fabrics!



FULLING AND SCOURING

Soft, Resilient Worsteds!

In fulling worsteds, you need a light fulling and scouring action. That's one of the reasons why Armour's CERTIFIED is the best soap for this job. CERTIFIED provides body for the fulling operation and also for suspending and carrying away the oils applied in the spinning process. CERTIFIED's easy solubility and good rinsability guarantee clean, resilient goods.

Remember, There are Armour Soaps and Synthetic Detergents to Solve All Your Textile Problems.

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ELECTRONIC
MOISTURE CONTENT
CONTROLLER

Since its introduction the Barber-Colman Moisture Content Controller has convincingly demonstrated its ability to improve quality and increase production in the slasher rooms of many well known mills. The new and improved, high quality, *all-electronic* unit shown above is applicable to all types of warp as processed on slashers having any type of variable-speed drive. In operation, a roller in contact with the warp as it leaves the slasher, continuously measures the moisture content and, through the automatic electronic circuits of the Controller causes the speed of the slasher to be adjusted so as to uniformly maintain the desired moisture content. The Controller is a proportioning type instrument equipped with automatic reset, hence the moisture content can be controlled at a constant level without "hunting" of the variable speed drive. For further information call your nearest Barber-Colman brance office or write for bulletin F-3156.

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

BARBER-COLMAN COMPANY
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BOSTON MASSACHUSETTS • GREENVILLE SOUTH CAROLINA • GREENSBORO NORTH CAROLINA

clined to concentrate on areas getting the bulk of those plants. Such concentration can prove to be a serious error, however, because, if the new capital is coming from the old area, much of the selling still has to be done there. For example, Los Angeles expects soon to rank second among the nation's auto assemblying centers. Ford, General Motors, and other makers are opening big new plants there and are driving hard to enlist hundreds of new suppliers in the area. But Detroit will still have the final say on whose supplies will be bought.

The Far West has gained most spectacularly. It has increased its share in 18 industries out of 20. Over-all, it has raised its share of U. S. factory jobs by 0.9%. The Southwest, similarly, has gained in 15 industries of 20, has raised its share of factory jobs 0.5%. The Southeast gained in 16 out of 20 industries, and rose from 13.6 to 14.8% in its share of over-all employment. New England has shown declines in 15 out of 20 industries. Its share of employment has dropped 1.1%—from 11.6% to 10.5% of U. S. totals. The Middle Atlantic states are over-all losers, the Farm West states consistent gainers.

Differentials in costs between the regions have changed. The Interstate Commerce Commission has boosted freight rates since before the war by 12% more for Eastern than for Southern or Western manufacturers in many lines. Wage differentials, on the other hand, show no such narrowing. Bureau of Labor Statistics studies show little change in average wage differences over the last 15 yr. The Far West still runs some 15% above, and the South some 15% below, with par for the Northeast and Middle West. These differences reflect the dominance of high or low wage industries in the various areas more than they do the variation in pay for an identical job. Detailed studies show some Southern industries paying above, and others below, the national average—with the differentials shrinking as each low-pay or high-pay industry grows. In textiles, the differential has dwindled. The biggest boon for the fast-growing regions, in labor matters, has probably come from the wartime training that built up skilled, efficient labor forces and so reduced relative costs.

Spinning Control

(*Continued from page 121*)

the valves, cylinders, and the compressed-air line.

On a filling frame winding a regular filling wind and driven by an individual motor, one valve and two cylinders are used. The valve is bolted to

the lower edge of the roller beam directly below the thread guides. Connected with the valve is a trigger secured to the bolster rail.

The end of the trigger is located at such a point that a ring-rail guide rod works beside it. When the wind reaches the desired height on the bobbin, the lower end of the guide rod slips past the trigger. On the next downstroke, the rod bears the trigger down, actuating the valve.

Air is released to the larger cylinder, located on the bolster rail. The flow of air into the cylinder forces the cylinder piston and the rod connected to it toward the head of the frame. On the end of the piston rod is a fork that moves into position around the traverse rod. As the flow of air continues, the traverse rod is forced, thus bearing down the ring rail.

ADJUSTMENTS. Both the winding height on the bobbin and the speed at which the rail is lowered are adjustable.

The smaller cylinder, located beneath the bottom creelboard, works in a similar manner. The air-driven piston and rod force the shipper rod in order to stop the frame.

After the frame has been doffed, starting it up again requires only that the doffer flip the catch that holds down the ring rail, wind back the rack, shake the rail to clear the traverse, and pull the shipper handle.

While greater advantages are obtained from the knock-off by using it on filling frames, mills are beginning to use it also on frames spinning warp and knitting yarns. One large mill that has all of its filling frames equipped with the device reports that it is now starting to equip its warp frames.

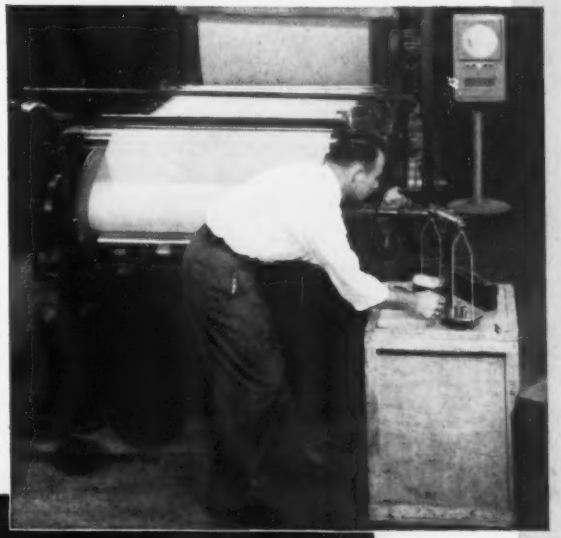
It is estimated that on warp and sales-yarn frames the installation will pay for itself in 2½ to 3 yr.

Circular-Rib Machines

(*Continued from page 119*)

each have butts at the same position and are operated together. During knitting, the expander is well down on the cylinder and has no effect on the looping action of the needle, but when selected at the transfer point, the needle and expander rise together, extending and expanding the needle loop which is then entered by the adjacent dial needle. Consequently, the gaiting of the dial and cylinder are such that the dial needles are not exactly centrally placed between the cylinder needles, but are arranged so that the dial needle will pass centrally between the cylinder needle and its

... "Know-How"



BARBER-COLMAN
ENGINEERING SERVICE
FOR
SLASHER ROOM PROBLEMS

Barber-Colman engineers, who have gained "Know-How" through years of experience, will at your request and without obligation, make an initial survey of your slasher room, and discuss with you all of the equipment and its functions. They will also make recommendations leading toward efficient and profitable slasher operation. If the analysis indicates the need of Barber-Colman Moisture Content Control, a Barber-Colman engineer will, upon delivery, supervise the installation and accurately calibrate the controllers to match conditions in your plant and of your product. In addition, training courses for mill mechanics are offered at Barber-Colman branch offices to impart this "Know-How" to them and thus assure continued efficient operation of the equipment. This program of *slasher room survey, supervised installation,* and *employees' training* insures the best results — in the form of lower costs, greater production, and better products.

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

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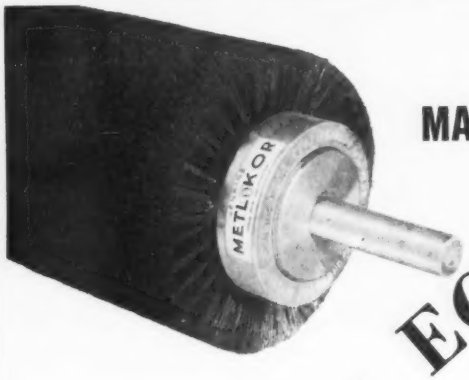

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These Jenkins' brushes give 3 to 5 times the Active Life

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Jenkins' METLKOR brushes can be furnished with all nylon, nylon and natural bristle, or natural bristle and fiber in any blend. For fullest economy we recommend all nylon bristle.

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CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

expander. The cylinder-to-dial transfer of every third cylinder loop is shown in Fig. 4, where the whole cycle of the transfer movements is included from right to left.

The dial also has loop expanders in connection with every third needle; this is to permit a true 2x2 ribbed waist to be made on a garment which is predominantly 1x1 rib. The needles, therefore, must be arranged with butts (long, long, short) L.L.S-L.L.S in both dial and cylinder, and split cams are provided for knitting long-butt needles only during the 2x2 ribbed portions. The stitch length is automatically shortened to provide a stable, yet elastic, waist. Further an arrangement of the cams allows the loop-transfer selection to be made on the cylinder needles for the transfer to 2x2 rib, independently of the pattern-selection unit, so that none of its patterning potential is lost.

Fig. 5 shows a general view of the knitting head on which can be seen the patented striping mechanism on the right, a selection unit controlling knitting; and, on the top of the dial cam plate, the six small drums which control the movements of the dial and cylinder cams, shog the dial during the knitting of the welt on 2x2 rib, and effect the changes in stitch length.

Having regard to the effects produced, the productive capacity of the RLGT/2 machine is high, averaging 6 doz. garments per 8-hr. day under plant conditions. Silk, rayon, cotton or wool can be knitted satisfactorily in counts ranging from 20s to 30s worsted or their equivalent, and the loop transfer can be effected without experiencing trouble on 21 courses per inch of 1x1 rib, giving a fabric with good stability and yet elasticity. The writer has seen these machines operating under test conditions at greater rpm. than is normal in the knitting mill and giving satisfactory results in quality, regularity and performance.

Loom Checking

(*Continued from page 117*)

3. Better access for cleaning under the loom.
4. Easy access to cams, treadles, and pick and harness motions.
5. Less danger of blowing oil on warp.
6. Possibly some improvement in conditioning the warp because it is in better position in relation to the humidifiers.
7. Less fire hazard.
8. Less waste because of fewer warp changes.

Disadvantages pointed out included:

1. More difficulty in handling loom

settling decanting filtration ... are out

when you use Hooker Sodium Sulfide

In these days of soaring costs, few rayon manufacturers can indulge themselves in the luxury of time wasting, costly preparation of desulfurizing baths—especially when you can save all this with Hooker Sodium Sulfide. Hooker Sodium Sulfide is so free from impurities (an iron content as low as 8ppm. max.) that rayon plants are using the solution directly from the dissolving tanks. In some plants it is reported that they have added Hooker Sodium Sulfide directly from the drum into the desulfurizing bath. In either case the time consuming and costly process of settling and decanting or filtration are eliminated. There is no loss of chemicals in the disposal of sludge and no special equipment is required for disposal of high sulfide sludge wastes.

Fixed controlled Alkalinity saves Caustic Soda . . .

Another saving for you when you use Hooker Sodium Sulfide is in the caustic soda used for maintaining alkalinity of desulfurizing bath. Hooker Sodium Sulfide has a fixed controlled alkalinity. This means a substantial economy in the amount of caustic soda required to adjust alkalinity within the limits required.

If you have not yet tried Hooker Sodium Sulfide for your desulfurizing baths, we suggest you send for a trial shipment. It is sold in 90 and 350 pound steel drums.

SPECIFICATIONS:

HOOKER SODIUM SULFIDE, Na_2S

a light yellow colored solid in flake form, soluble in water, slightly soluble in alcohol, insoluble in ether.

ANALYSIS

Sodium Sulfide	60 to 62%
Sodium Chloride	1.5% Max.
Other Sodium Salts	2.0% Max.
Iron	8ppm. Max.
All other metals	1ppm. Max.
Water of Crystallization	36.5 to 34.5%

HOOKER ELECTROCHEMICAL COMPANY

4 Forty-Seventh St., Niagara Falls, N. Y.

New York, N. Y. Wilmington, Calif. Tacoma, Wash.

HOOKER CHEMICALS

7-353

Caustic Soda **Muriatic Acid** **Chlorine**

Paradichlorbenzene **Sodium Sulfide** **Sodium Sulfhydrate**

83 Years of Yarn Dyeing Service

Package Dyeing

Skein Dyeing

Research and general laboratories

Since 1865, Globe Dye Works Company has been a leading commission dyer of yarns for every weaving and knitting purpose, giving efficient dyeing service to exacting customers locally and throughout the entire textile industry.

As the industry has grown, Globe has expanded its personnel and equipment, until today no plant anywhere has more to offer in quality, variety, and volume of yarn dyeing service.

•

Yarns we process include cotton, rayon, worsted, nylon, blend and novelty yarns.

•

We do package dyeing on tubes, skein and warp dyeing, warp mercerizing and sizing.

•

GLOBE DYE WORKS CO.

4500 Worth Street **Philadelphia 24, Pa.**

beams. (Special handling equipment is necessary.)

2. Accident hazard is increased.

3. More difficulty in smashing and straightening warp yarns behind the drop wires.

4. More difficult to tie in warps.

5. Warp shedding falls on drop wires.

This mill also uses 32-in. beam heads on 112 40-in. looms not equipped with overhead racks. The beams are handled with a portable hoist. An increase in production as a result of less time out for warping and smashing has been noted.

STYLE INFLEXIBLE. One other disadvantage of using the large beams is their inflexibility for running a large number of styles for quick delivery. The warps are so large that a loom is tied up on one style for a considerably longer time than it would be on a small beam.

Another mill, which has six looms running with overhead beams, reported that they were satisfactory except for the smash hand. This mill estimated that it could save $50,000 a yr. by decreasing slasher doffing and tying in if it equipped all its looms with the overhead racks and large beam heads.

One mill reported that it is going from an 18-in. to a 20-in. beam head, without overhead racks. The change, it was said, would increase the amount of yarn on the beam approximately 25%. About 20% fewer beams would be in production; and handling, smashing, and tying in would be decreased about 20%. Such a change would not create transportation and handling difficulties.

Controlling seconds receives much attention in the weave room and cloth-inspection room. Most mills watch the performance of individual looms by means of records of seconds.

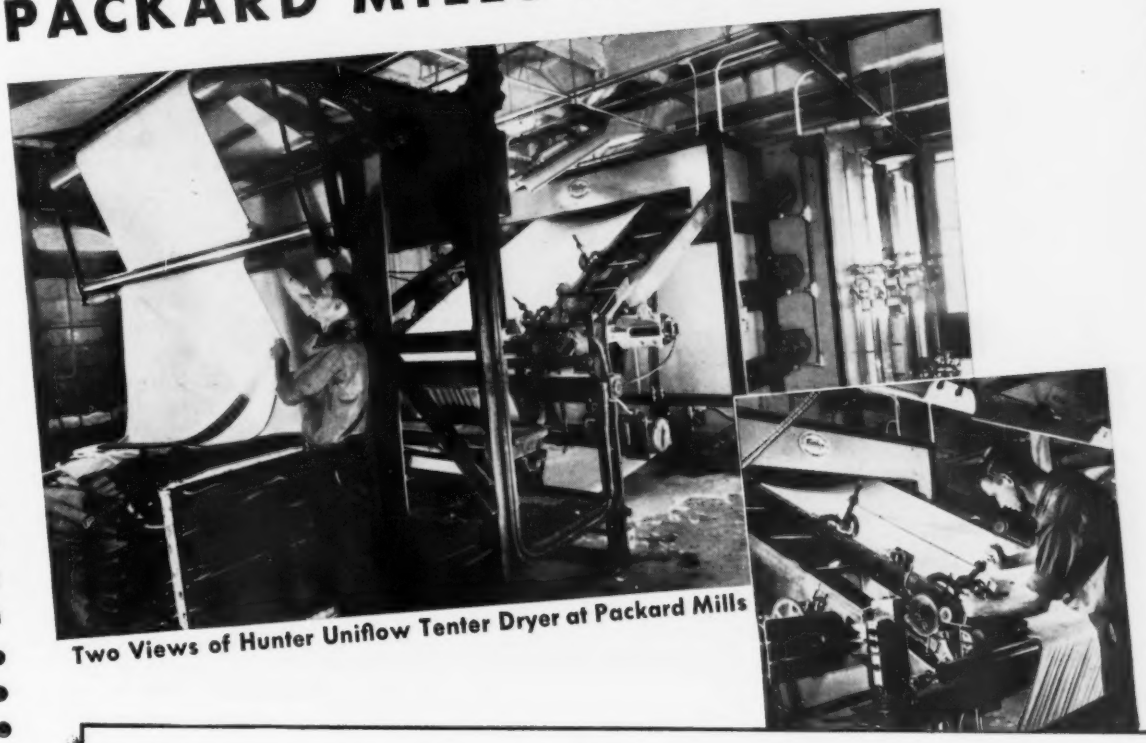
A representative inspection system provides for inspection while a roll of cloth is being woven and again after it has been woven. The weaver is primarily responsible for the first inspection, but the loomfixer and supervisor also inspect weaving cloth as much as their other duties permit. The second inspection, in the cloth room, provides the seconds record and brings to the attention of the supervisor, loomfixer, and weaver things that they overlooked.

SECONDS CONTROL. The quality-control system described by one mill is as follows:

All cloth rolls are marked with the loom number, style of cloth, and the date it was taken off the loom. When a defect is found in the cloth room, all pertinent information on the defect and cloth roll is recorded. The rejected

Memo on Modernization

PACKARD MILLS are MODERN



Two Views of Hunter Uniflow Tenter Dryer at Packard Mills

A New HUNTER Uniflow Tenter Dryer Speeds Their Finishing Operations

At Packard Mills they are getting better results, at less cost, through a never-ending modernization program. Like other leaders in the textile field, they specify Hunter for preparation and wet finishing equipment. Why? Because Hunter has the know-how gained by a century of experience — because Hunter equipment is the most modern available.

Packard's new Hunter Uniflow Tenter Dryer, for instance, affords drying times of 1.2 to 4 minutes, depending on the weight and construction of the fabric. Cloth is exposed to heat and air treatment but a fraction of the time usually required, with subsequent gain in handle and quality. The Uniflow requires only one man's operation.

One way to start your own modernization program is to get guaranteed production estimates on new equipment before spending a dime. A Hunter representative will be pleased to make such a guarantee after studying your requirements. Call on him.

Write today for your free copy of Bulletin UTD which gives complete details on the Hunter Uniflow Tenter Dryer.

BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

You're on the Right Course With Leighton Knitting Machines

Production of athletic garments has been a specialty with Leighton Machines for many years. Garments for men that are rugged for outdoor sports and garments with style for women that have that soft elastic feeling. Brushing sidewise right on the machine adds greatly to the sales value of knitted garments.

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873
LEIGHTON
MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

cloth is sent back to the weave room, where it is seen by the overseer, second hand, loomfixer, and weaver. Necessary corrections to the loom are made.

The ticket on which the defect information is recorded is also sent to the weave room. By means of records kept from these tickets, the performance of each loom can be quickly ascertained.

An inspection table is located in the weave room so that the supervisor can inspect cloth himself or show the whole cut to the loomfixer or weaver.

Another mill, which follows practically the same routine, has in addition a board in the weave room on which the name of each weaver and his group of looms are listed. A daily summary of seconds is posted on the board. Each weaver can tell at a glance if he is making too many seconds.

A record of cloth defects is returned to the weave room each 2 hr. in one mill. The weave-room second hand goes to each loom for which he has a defect slip and inspects the cloth to see if the defect is still being made. If the loom needs attention, he stops the loom and flags the fixer. The fixer and the weaver are shown the defect slip.

The cuts of seconds are sent back to the weave room, and the second hand shows the defects to the fixer and weaver. If the cut is large, the second hand, fixer, and weaver go to the cloth room and watch during the inspection.

FIXER AND SMASH HAND. The fixer makes a daily round inspecting for bad let-offs and jerked-in filling. The smash hand also makes a daily round looking for cloth defects.

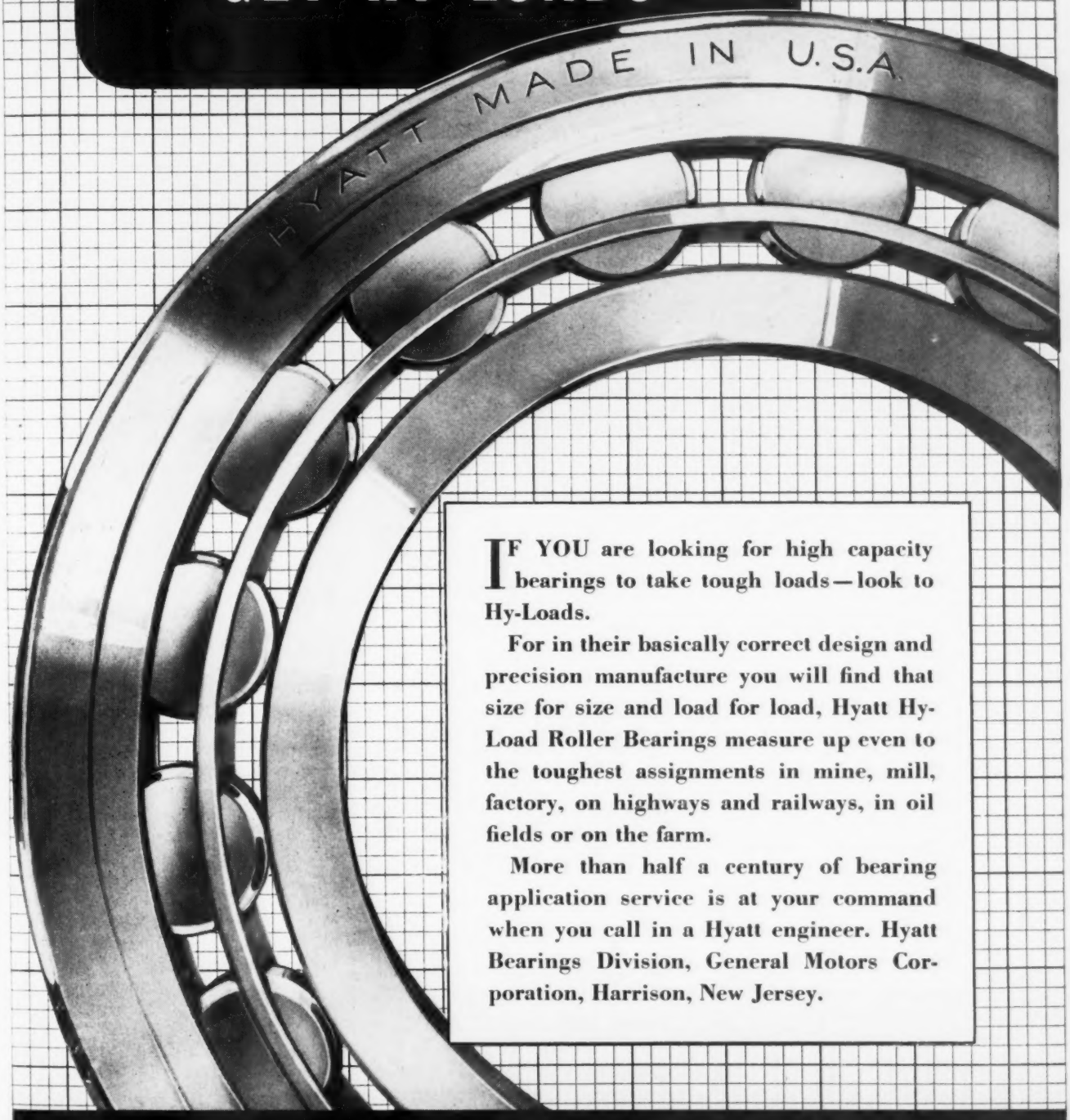
A daily seconds report is posted on the bulletin board so that each weaver and fixer can see their records. A weekly report is also posted. The record covers an 8-week period. It shows each second made on each loom during that period. When a week's record is taken off the board, it is filed for future reference.

A monthly check of all warps is made by the second hands and quality-control man to see that good warps are coming from the slasher room. The quality-control man also follows up all seconds. If a defect cannot be traced to a loom, he will follow back through previous processes.

In order to keep cloth inspectors alert, this mill sometimes breaks open cloth ready for shipment and reinspects it. If any defects are found, records are made and shown to the inspector who passed them.

MAINTENANCE. Preventive mainte-

FOR TOUGH LOADS GET HY-LOADS



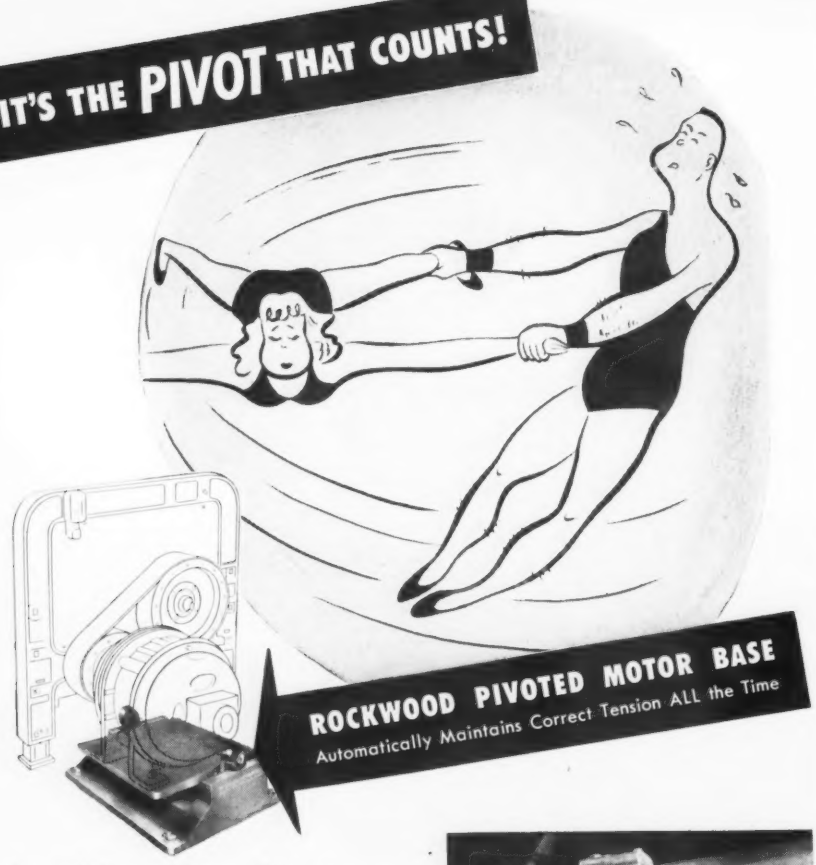
IF YOU are looking for high capacity bearings to take tough loads—look to Hy-Loads.

For in their basically correct design and precision manufacture you will find that size for size and load for load, Hyatt Hy-Load Roller Bearings measure up even to the toughest assignments in mine, mill, factory, on highways and railways, in oil fields or on the farm.

More than half a century of bearing application service is at your command when you call in a Hyatt engineer. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

IT'S THE PIVOT THAT COUNTS!



ROCKWOOD PIVOTED MOTOR BASE
Automatically Maintains Correct Tension ALL the Time

Rockwood Pivoted Motor Bases assure dependable driven-machine performance week-in and week-out. No need to worry about belt-stretch or load-changes, because the Rockwood Drive automatically maintains just the right amount of pull . . . just the right speed *all the time!* It gives you greater profit per machine in four different ways:

CUTS OPERATING COSTS—Eliminates belt slippage, usually doubles belt-life, saves 5 to 10% in power, reduces bearing wear to a minimum!

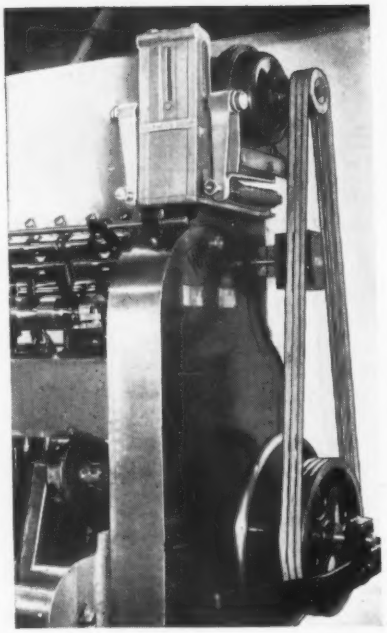
UPS PRODUCTION—Operates continually up-to-speed . . . no slow-downs or time-outs for adjustments!

BOOSTS QUALITY—Maintains constant driven-machine speed at all times.

REDUCES MAINTENANCE—Holds correct tension with practically no attention. No adjustment needed . . . motor-bearing overhauls practically unnecessary.

Here's the answer to more efficient, lower-cost operation from spinning and twister frames in your mill. Rockwood Pivoted Motor Drives are quickly and easily installed! Write us for further details, or call your Rockwood distributor today!

ROCKWOOD MANUFACTURING COMPANY, INC.
Indianapolis, Indiana



Rockwood Pivoted Motor Bases are available for several different types of installations. Above is shown a Rockwood Vertical Type Base, driving V-Belt Drive on a Whitin Roving Frame. The floor-base type is shown at the top of the page. Others include a shelf-type base for textile machines, and a ceiling-type for lineshaft drives.

ROCKWOOD PIVOTED MOTOR DRIVE

AVAILABLE *for Flat or V-Belt Drive*

• Rockwood's expanded manufacturing facilities now assure delivery immediately, or according to any delivery schedule you determine.

nance, usually in addition to the routine work of fixers, is being practiced in several mills. In some instances, this program itself has become part of the loomfixer's routine. Reports of three mills that use different methods are:

Mill No. 1: The fixer checks a loom when the warp is out, immediately after the loom has been cleaned. Every motion is checked, all nuts tightened, necessary settings and repairs made, and all badly worn parts replaced. When the fixer finishes with the loom, he signs a card attached to the loom.

The oiler follows the fixer. He lubricates all parts ot the loom according to the oiling schedule. He then signs the tag on the loom.

The second hand checks the work of the fixer and oiler; and if he passes the work, the loom is turned over to the warp man, who ties in the new warp.

There is also an overhauling crew at work in some part of the room. This crew is moved from one group of looms to another as the need arises.

Mill No. 2: We are now lining our looms. The points we pay particular attention to are squaring the reed and lay, replacing worn-out race boards, lining the lay-end plates, and aligning the back box plates to the reed.

We are not attempting to overhaul the looms on this round. We do make some adjustments to the looms. The work is being done by two fixers and two trainees who are being taught to fix looms. They line four looms a day.

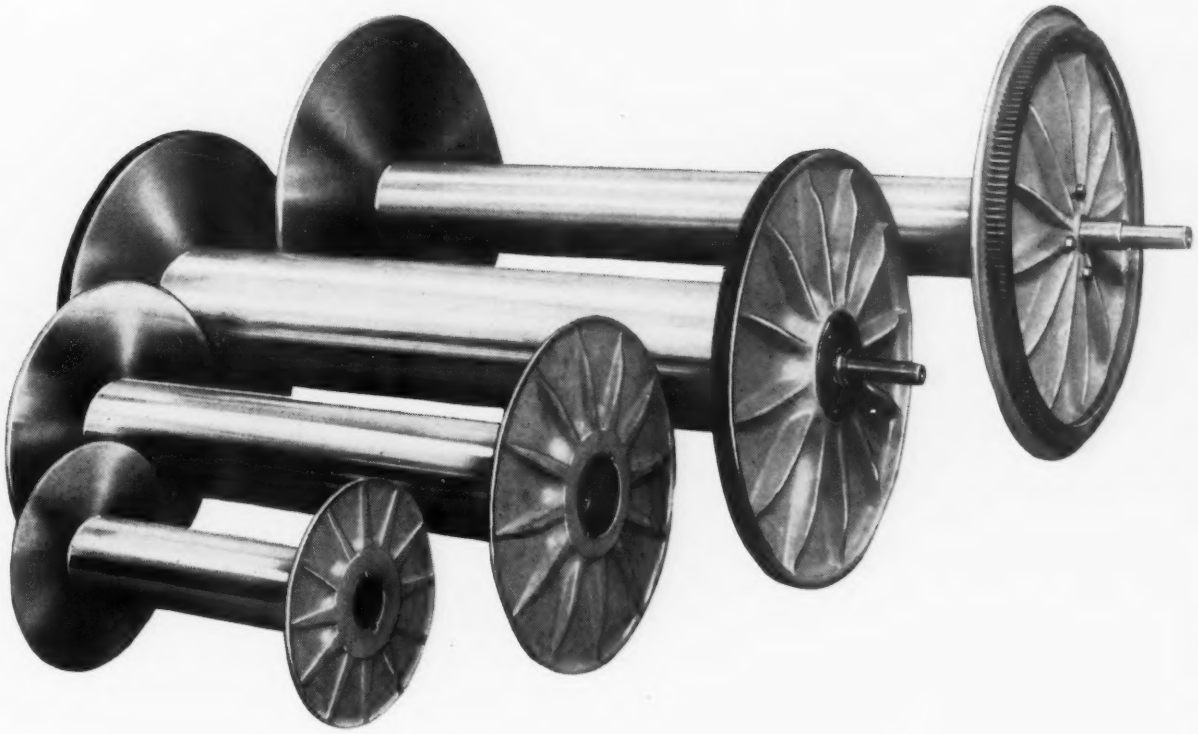
Mill No. 3: We have a man on each shift to put in crankshafts and camshafts and to line and gage breast beams, hopper stands, and lays. We have another man who overhauls let-offs and take-ups. These two men, and the regular loomfixers, do all the maintenance work that can be done easily in the weave room.

The complete overhaul job is done outside the weave room, in a well-equipped central-maintenance department, by the maintenance staff. This staff, under the supervision of the maintenance department, is made up of experienced loomfixers and other maintenance specialists.

A group of looms, usually about 14, is removed from the weave room and taken to the maintenance shop. They are dismantled, steam cleaned, reassembled with new parts, and equipped with a centralized lubrication system. This group of looms is then set up again in the weave room and another group taken out.

A complete record of costs is kept.

Hayes Offers a Complete Line of Light Metal Textile Beams In Standard Sizes



Let Hayes accurate, precision-built aluminum or magnesium beams reduce costs and down-time in your mill.

These well-balanced Section and Tricot beams run at high speed, do not warp and have practically no spread of heads—and are *half the weight of wood and steel beams.*

The use of Hayes large or regular size, light weight, polished, aluminum, true-running, rust-proof Loom beams contribute to better weaves, less rejects and fewer stops.

A 32" diameter head beam gives you 80% more yarn capacity than a 24" diameter beam.

We now offer this new type, well designed, and expertly manufactured textile equipment at astonishingly low prices. Prompt delivery.

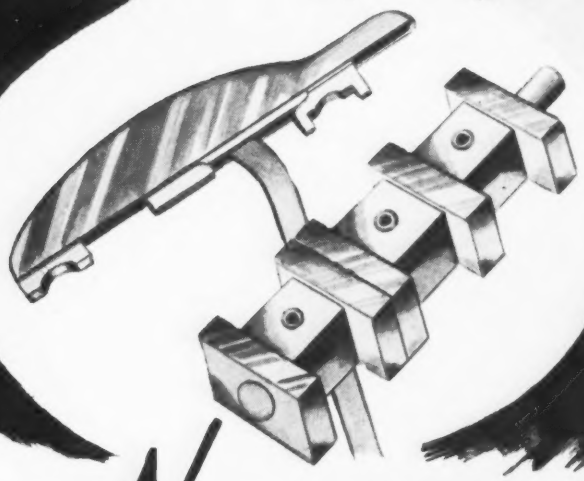
Write, phone or wire your requirements

HAYES INDUSTRIES, INC.

JACKSON, MICHIGAN, U. S. A.

DIXON

Puts the Spotlight on



A *New* SADDLE AND CAP BAR*!

WITH *SLIXONICE BEARINGS**

The New Frictionless Bearing That NEVER Needs Lubrication.

YOU CAN NOW HAVE AN *OIL-FREE* DRAFTING UNIT WHICH WILL:

- REDUCE SPINNING COST
- ELIMINATE YARN SOILING
- ELIMINATE SCORED ROLLS
- REDUCE COLLECTION OF LINT
- REDUCE ROLL PICKING
- CUT AVERAGE POWER CONSUMPTION

Send for our booklet, illustrated here, which gives detailed information on new Slixonice Saddles and Cap Bars.

*Patent Applied For; Trademark

DIXON SADDLE CO.

Established 1876

Bristol, Rhode Island, U. S. A.

Sole Manufacturers of

DIXON

SLIXONICE SADDLE AND CAP BAR NEBS

Slashing Practices

(*Continued from page 129*)

switched to the back. While it was operating on the front roll, it delivered yarn with the same percent of size as a wool cover. It caught foreign matter and had to be cleaned frequently. During the 3 yr. that it has been running on the back roll, it has been dressed once a year.

One of the mills that found synthetic covers unsatisfactory reported that no changes to its slashers were necessary for running the covers. It uses 9.50s warp in sets of 2,500 ends. A saving of about 33% of the cost of wool blankets was realized.

The "Uxbridge Gentle-Air" system, said to dry 1,000 lb. of warp yarn per hr., was described at the meeting by a representative of Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.

Designed to fit a slasher at the section now occupied by steam cylinders or other drying arrangements, the standard unit accommodates warps 54 or 66 in. in width. It is 16 ft. long, 10 ft. wide, and 11 ft. 8 in. high.

The warp sheet, traveling in an inclined path makes three passes—up, down, up. The turn rolls are spaced so that 14 yd. of warp are in the box. Drying is accomplished by hot air blown over the yarn. Damp air (20 to 30% of the total air) is exhausted at the back of the box above the size box of the slasher.

One of the advantages claimed for the box is the fact that the yarn touches metal only at the turn rolls. It is said that the yarn is 60 to 70% dry and has lost its tackiness by the time it reaches the first roll. This feature and a wet-splitting device are said to improve the finished condition of the sized yarn.

OUTSIDE TEMPERATURE. The box is insulated so that the high inside temperature raises the outside temperature of the box to only 106° F. Two fans, each of which delivers 15,000 cu. ft. of air per min., are used. A steam pressure of 100 lb. is used to heat the air blown into the drying area of the box. For each pound of water evaporated from the warp, about 2 lb. of steam is used.

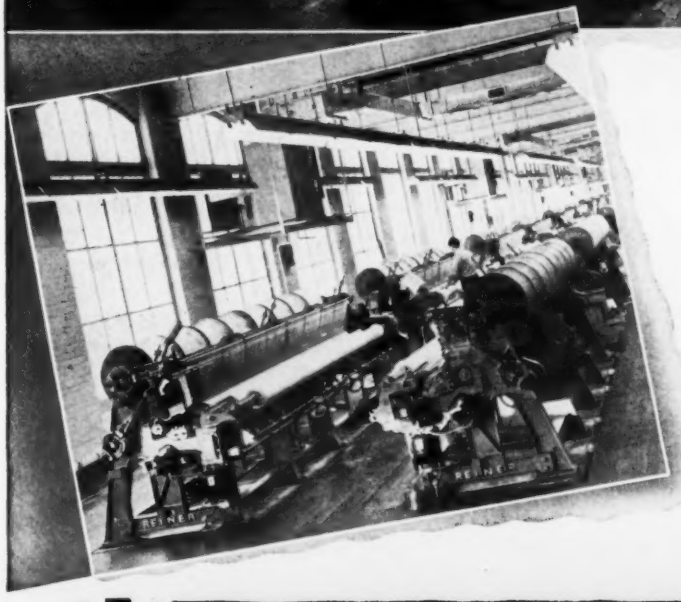
No damage to the yarn results from exposure to high temperature when the slasher is stopped, it was reported. A drop in temperature from 260° F. to 130° occurs in 3 sec. A rapid rise in temperature when the slasher is started again prevents uneven drying.

The system is equipped with automatic controls said to hold variation of speed within ¼ yd. per min. Tests

"THEY RUN LIKE CLOCK WORK"

—you hear comments like this among production-wise users of Reiner High Speed Tricot Machines and other Reiner equipment.

There is a reason, of course. Since 1945, we have installed over 300 units of this steady and profitable producer. New and repeat orders give vivid evidence of its mounting popularity among knitters who know good machines when they see and use them.



Photos courtesy
New Bedford Knitting Co.

The new Reiner High Speed Tricot Machine has a cruising speed in excess of 450 courses per minute, with a knitting width of 168 inches (or 84 inches with still higher speeds). It takes spools up to 21" warp flange diameter or of conventional size. It can be operated with either pattern wheel or a chain link drive. The change-over is a matter of minutes. This gives the knitter a selective pattern range of one bar or two bar tricot fabrics of rayon, nylon, silk, cotton, wool, etc., single-fibre or blended yarns. We also manufacture 3-bar machines. Gauges from 14 to 32.

The Reiner Line also includes:

a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and auxiliary items, giving the knitter a continuous line from start to finish, all available from one source.

Ask for our richly illustrated catalogs, or, better still, write to us for an appointment to see this High Speed Tricot Machine in action at our showrooms in Weehawken, New Jersey.

ROBERT REINER INC.

FOUNDED IN 1

550-556 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

DOLLARS SCRUBBED RIGHT INTO THE WOOD!

You'd be dismayed, too, if you could see how *much* scrubbing really costs! More man-hours for maintenance . . . more accidents due to wet, slippery floors . . . more expense for floor repairs . . . more time lost waiting for floors to dry, etc.

That's why hundreds of mills have abolished scrubbing — for the modern TENNANT System.

SAVE LABOR, CUT COSTS, BY "DRY-CLEANING"

RECONDITIONS your floors. Fast, easy-to-use Tennant machine brings your floors to life again! Gets rid of dark, rough, oil-soaked fibers . . . leaves floor bright.

HARDENS surface to resist wear. Special sealing process fills, binds and hardens wood fibers. Makes your floor resist dirt penetration . . . prolongs floor life.

DRY CLEANS, eliminates scrubbing. A fast, one-man job . . . with no mess or bother. Keeps floor lustrous, DRY, non-slippery. Enthusiastically approved by hundreds of mills. Saves man-hours, assures fine floors.

WRITE TODAY! Ask for illustrated bulletin describing this NEW MODERN WAY TO MAINTAIN TEXTILE FLOORS.

Where Mill Floors Gleam Mill Profits Grow

The way to finer floors
TENNANT
Floor Maintenance System

G. H. TENNANT CO.
2586 North 2nd Street
Minneapolis, Minnesota

run by Bachmann Uxbridge were said to show that warp-yarn stretch occurs at the back of the slasher before the yarn enters the dry box. In the operation of two units in the plant at Uxbrigde, Mass., stretch has been held to 1½%.

The squeeze rolls at Uxbridge are equipped with Westinghouse drives and pressure regulators. Creels are not positively driven. A knitted woolen tube is fitted over the squeeze rolls to prevent lap marks on the warp sheet.

In answer to a question from the floor, it was stated that the flatness or roundness of the sized warp yarn makes no difference in the fullness of the woven fabric. Current price of the standard dry box was said to be $15,000.

DRIVES. Variable-speed drives are being experimented with extensively. Nine mills gave experience with this type of drive. The reports, in condensed form, from some of the mills were as follows:

Mill No. 1: The variable-speed drive will permit an increase of about 10% in the amount of yarn on the loom beam.

We are having some trouble at the start and stop of our multi-motor drive. On a warp of 3,560 ends of 32s yarn running 92 yd. per min., this drive requires 11 yd. to come to a stop. It takes 45 sec. to attain maximum speed again at the start-up.

In contrast, a slasher equipped with a transitorq drive comes to a stop in 3 yd. on a set of 2,178 ends of 12.25s yarn running 96 yd. per min. Only 7 sec. is required to reach maximum speed on the start-up.

The tension on the yarn with both of these drives is excellent. We are quite sure that warps made on these slashers give considerably greater weaving efficiency.

Mill No. 2: We use three variable-speed drives on the slasher. The slasher drive is controlled by a Brown Moist-O-Graph. The cylinders and the squeeze rolls are driven by variable-speed drives on the side shaft. We have found no difference in the amount of yarn wound on the loom beam. We have no trouble starting and stopping the slasher. Because of less stretch and the proper amount of moisture, warps made with these drives should run better in the weave room.

Mill No. 3: We have three variable-speed drives on each slasher: (1) stretch control, (2) friction, and (3) main drive. These drives were an improvement over our conventional drives, but they were not a distinct success until we added the Brown Moist-O-Graph controls.

We think we will be able to get

More firsts, fewer seconds, a clearer, sheerer fabric . . . It all depends on the needles. That is why so many of America's leading full-fashioned hosiery manufacturers depend on Royersford Spring-Beard Needles for superior knitting results. Remember, it's the needles that knit the stocking and Royersford Needles are made by the most modern techniques in needle manufacture. So make your next order "Royersford" Needles, and see the difference experience makes.
ROYERSFORD NEEDLE WORKS, INC., Royersford, Pa.
Makers of a complete line of Full-Fashioned specialties.
Hands of experience
Royersford
—the Master Needle Maker

Back of every great development in Textiles stands the Bobbin.

A new swim suit captures the fancy of American women and starts a chain of events through the mills across the nation. A call for increased production in the throwing of rayon, Nylon and combination yarns . . . Bobbins subjected to severe tests . . . unusual tension . . . terrific speeds.

To meet such a production schedule problem, Cloverleaf-Freeland develops a new type bobbin so accurately built, and measuring up to such exacting specifications that it passes every production test under every condition and tension.

This is one example of the constant striving at Cloverleaf-Freeland to create better Bobbins.

CLOVERLEAF-FREELAND CORP.
Honesdale, Pa. Hazleton, Pa.
Southern Rep.: James T. Gordon, 1013 Woodside Building, Greenville, S. C.
New England Rep.: R. F. Makepeace, 9 Rhode Island Ave., Warwick Neck, R. I.

CLOVERLEAF-Freeland BOBBINS

Causes of Rolled Ends on Loom Beam

1. Insufficient stretch at back of slasher.
2. Ends out of lease or lease not straight.
3. Ends not properly dried.
4. Burrs on ends of traversing press rolls.
5. Brittle ends caused by excessive drying.
6. Draw-backs on section beams.
7. Bad cover on slasher delivery roll.
8. Bad loom beams.
9. Heavy warp yarn (4.50s to 7s) and high filling count (52 to 88).
10. Varying weave-room humidity.
11. Harsh, heavy size with insufficient fats in it.
12. Bad tying in.

more yarn on the loom beam. We have no trouble with starting and stopping since the Moist-O-Graph was installed. Warps should weave better because of constant tension and drying at the slasher.

Mill No. 4: When the manufacture of transitorq drives was discontinued, we changed over to d.c. variable-speed drives on our 4-cylinder, high-speed slashers. There is no difference in the amount of yarn on the loom beam. At first, we had trouble with insufficient take-up on the loom beam, but this condition was corrected. The drives are now highly satisfactory. They require less maintenance than the transitorq drives.

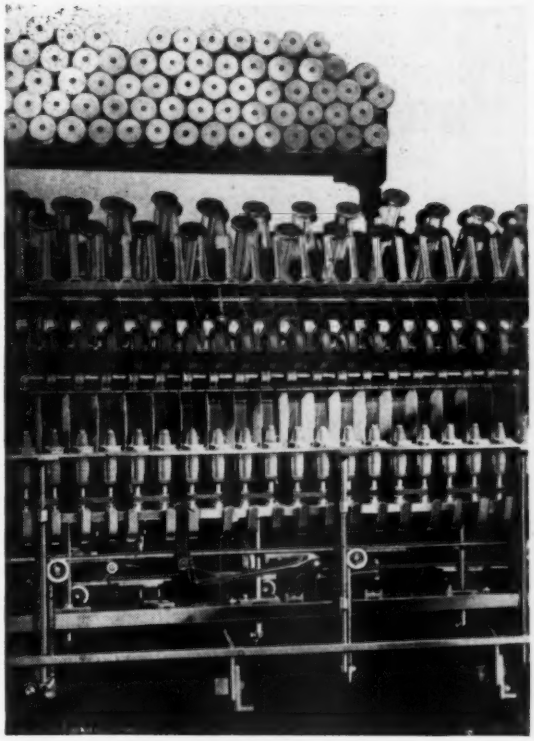
Mill No. 5: The advantages we have found from using our Westinghouse variable-speed drive and Moist-O-Graph controls on a 3-cylinder slasher are: (1) accurate moisture content, (2) increased production, (3) easier starting and stopping without kinking the ends, and (4) better weaving.

Mill No. 6: We previously put 1,080 yd. on a loom beam. With variable-speed drives, we put 1,152 yd. —an increase of 72 yd.

SIZE VISCOSITY. Viscosity of slasher size is receiving attention in many mills. Five mills reported the use of some type of viscosimeter. Some of the answers were:

Mill No. 1: We have three different sizes of the General Electric Zahn viscosimeter: a #2, #3, and #4. We check our size frequently when we change from one brand of starch to another. Usually, the #4 orifice is best for testing our size.

We use corn starch from three sources and also potato starch. When the size is cooked, we hold the viscosimeter inside the kettle above the size for a few seconds in order to adjust the temperature of the meter. The meter is then immersed in the size



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INCREASED EFFICIENCY
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We shall be pleased to advise you on the suitability of these machines for spinning your yarns. Write for full details.

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and drawn up again. The flow of size out of the meter is timed with a stop watch. These timings, the temperature of the size, the meter orifice number, and the type of starch are recorded.

The benefit of such checks is that we can maintain a constant degree of size fluidity.

Mill No. 2: We use a flow-type viscosimeter. It consists of a glass cylinder of about 750 c.c. capacity, with a metered hole in the lower end. Size taken from the kettle or size box flows out of the glass cylinder through this hole. The time required for the cylinder to run empty is recorded.

When we first tried to use this meter, our size was so thick that it would not flow out of the cylinder. We weakened it down until we had the proper viscosity as determined by the meter.

Mill No. 3: We have experimented with a flow-type viscosimeter, but the one we have is not satisfactory. It is good only to make a comparison from one kettle to another or one mix to another. It is awkward to handle, hard to clean, and permits the size to congeal quickly and stop up the orifice.

Mill No. 4: We use a plunger-type viscosimeter. We have found it useful in keeping our size at the same viscosity and in detecting quickly any difference in the size formula. Errors in cooking, change in size-box temperature, or damage from over-night storage can also be detected.

We use 140 lb. of starch, 14 lb. of compound, and 3 lb. of wax in our mix. We finish this formula with water to a total of 140 gal.

Most mills count a slasher lease at the front of the slasher, according to reports given. Ten mills stated that they follow this practice. One prefers to count leases at the back.

Foaming in the size box, it was agreed, is caused primarily by an improper size formula. Most mills use calcium-chloride gum, tallow, or a commercial anti-foam agent to keep down foaming. About 1 lb. of calcium-chloride gum to a batch usually prevents foaming, one mill reported.

Another mill stated that a pH of 8.2, or higher, should be maintained in order to prevent excessive carbon dioxide in the size.

WARP SOFTENER. Applying a softener to warp yarn separately from the size box is being tried by several mills. Results so far have been contradictory.

One mill reported that it has tried applying a softener to a heavy weave and obtained exceptionally good warps. There was less waste yarn at the front of the slasher as a result of fewer breaks at the comb and more parallel

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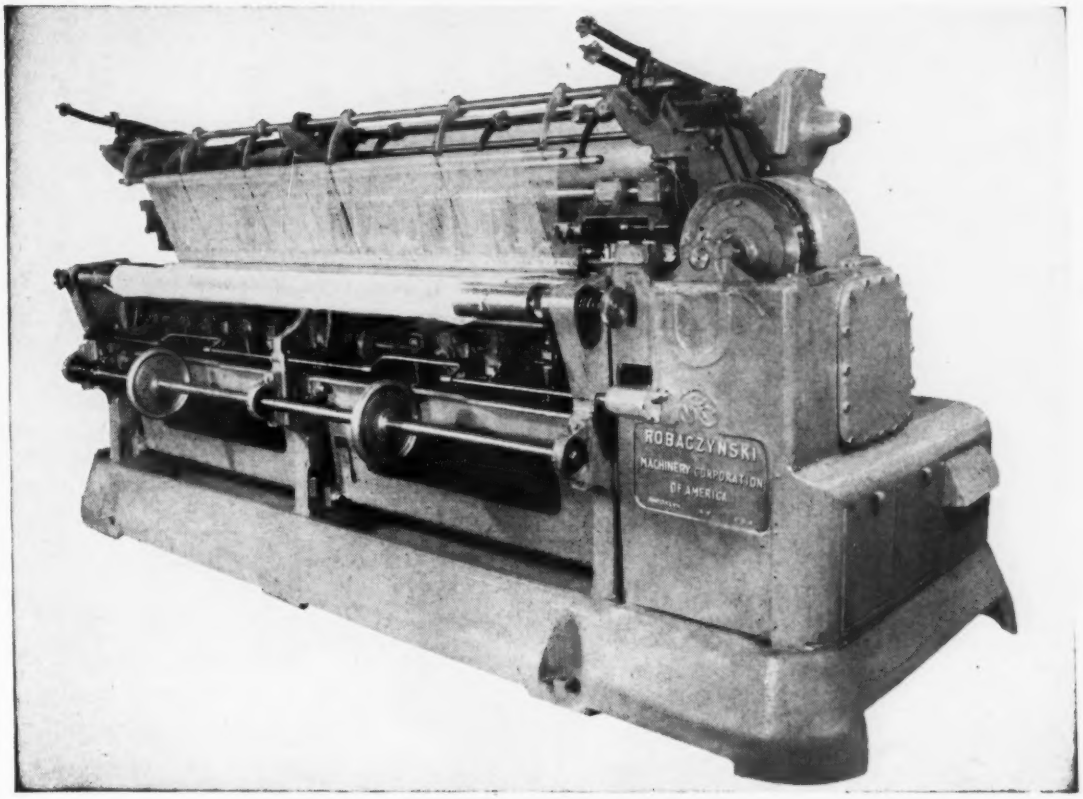

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Back of this newest Robaczynski tricot lies a lifetime of experience in the manufacture of knitting machines.

Every detail of the latest in engineering design and practical experience has been incorporated in its construction to give you better quality and quantity fabrics.

The Robaczynski Tricot fulfills in the highest degree all present day requirements for a high speed warp knitting machine. We cordially solicit your inquiries. Address Erick Gross Corporation, 64-72 West Broad Street, Bergenfield, New Jersey. General Sales Agents.

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Raschel Warp Knitters—V type Flat Knitting Machines—Purl stitch or Link & Link Machines—Border Machines—Tubular Trim Knitting Machines—Circular String & Belt Machines—Complete Information on Request.

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Simplify valve selection with this LUNKENHEIMER "RENEWO" THREESOME...

The "RENEWO" Threesome is fully described in Circular No. 577, which also explains the economy feature of converting one type to another by simply changing seat and disc. A copy is yours for the asking . . . from your Lunkenheimer Distributor or from us direct.

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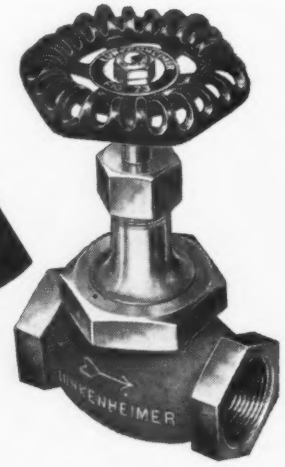
1 REGULAR TYPE...

Fig. 73 200 lb. S.P.

Fig. 16 300 lb. S.P.

Regular "RENEWO": one of the most popular and widely used valves ever designed for general service. As the name clearly implies, all parts are renewable.

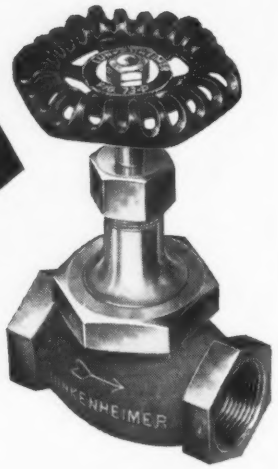


2 "P" TYPE...

Fig. 73-P 200 lb. S.P.

Fig. 16-P 300 lb. S.P.

"P" (Plug Type) "RENEWO": for throttling, drain, drip, water column blowdown and similar service. The "NS5" Nickel Alloy 330 Brinell seating material, developed and patented by Lunkenheimer, has exceptional wearing qualities and high corrosion resistance.

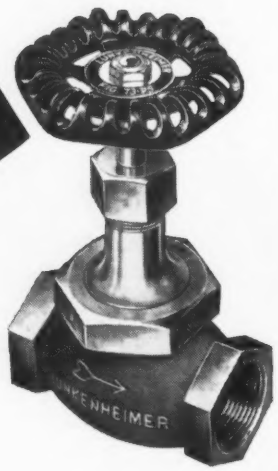


3 "PS" TYPE...

Fig. 73-PS 200 lb. S.P.

Fig. 16-PS 300 lb. S.P.

"PS" (Plug Type) "RENEWO": for maximum resistance to the effects of close throttling and other severe service, particularly where abrasive conditions are encountered. Equipped with stainless steel 500 Brinell seat and disc.



yarn on the loom beam. There was a slight increase in shedding at the loom, but the shedding was of a different nature than the shedding that results when the softener is added to the size mix.

Production was slightly better. Warp breaks per loom hour were 3% lower. Filling breaks were also lower. However, the cost of applying the softener was prohibitive. It was estimated that a 2% increase in weaving production would justify the additional cost.

Another mill reported that it had tried spraying a wax compound on the yarn in an effort to lay the fibers, but the results were not satisfactory.

An unexpected result reported by two mills was that filling breaks were reduced more than warp breaks. This result was accounted for by the lubrication the shuttle receives from traveling over the lubricated warp yarn.

One mill adds 1% fat to the yarn by means of a revolving applicator on the front of the slasher. It now has 150 looms running on 12.25s warp yarn slashed in this manner. The looms are shedding less, and there are fewer warp and filling breaks. In slashing warps at 95 yd. per min., this mill runs the softener applicator at 23 r.p.m. in order to add the 1% fat.

Colloidal Silica

(*Continued from page 123*)

Part of the oil is replaced, and the formula must be adjusted for the particular oil being used. In some cases if the regular amount of oil is added, it masks the effect of the colloidal silica.

The usual means of spray or drip application can be used. Uniform application assures the best results. The stock after picking is noticeably more lofty and open for better carding. Card fly is reduced, and less static is developed. The stock condenses easily giving a well-rounded, uniform roping with increased production.

At the mule or frame the effect of the Syton is particularly notable. A smoother fiber drag permits higher drafts, giving a greater limit spin and finer yarns from the same stock than when the silica is not used. The uniform roping not only spins finer but shows a higher strength as well. This increase in strength may permit a lower-grade blend of stock or a decrease in applied twist with a resulting increase in production. Also, with sufficient weaving strength at low twist, the designer may create new fabrics with a handle not possible before in a particular stock price range.

In the worsted system, 0.5 to 2.0%

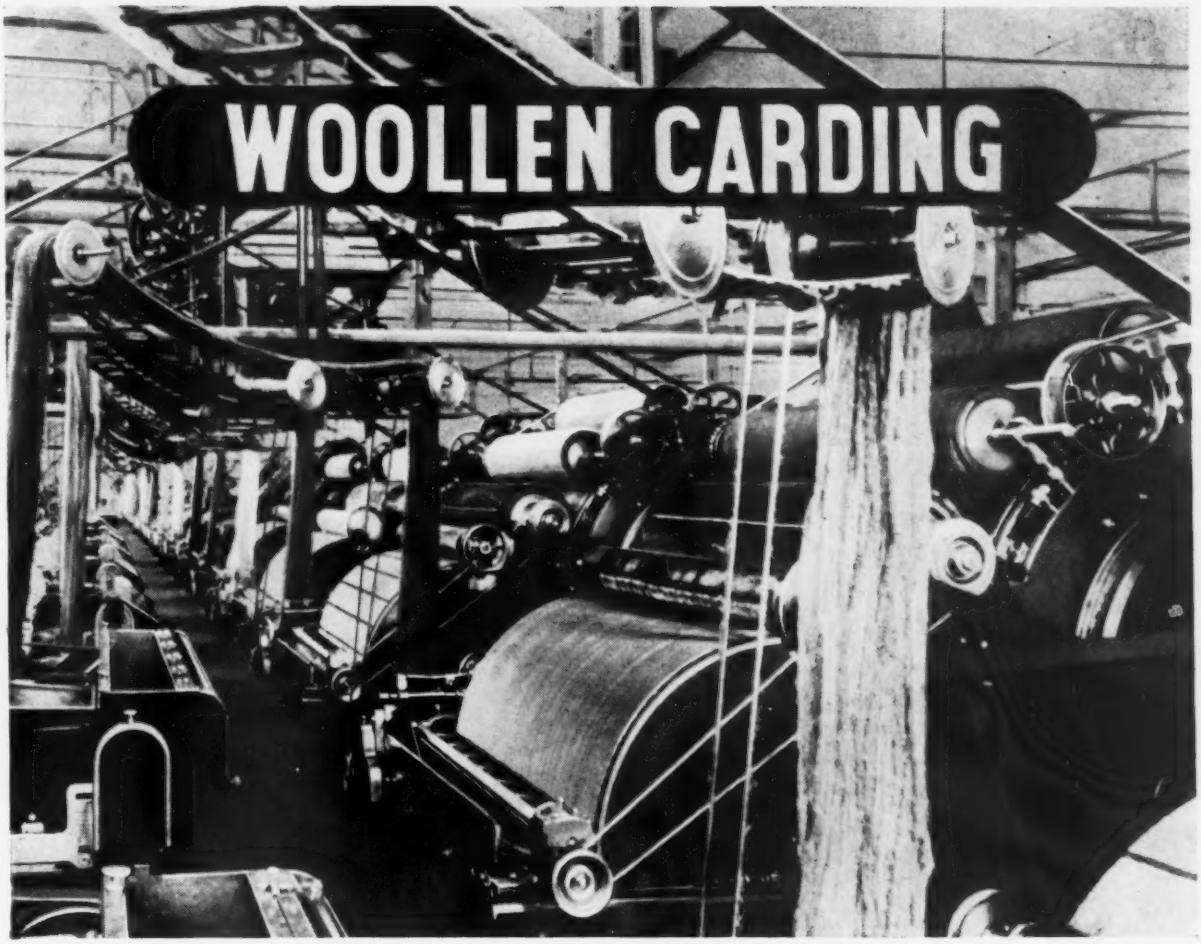


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Illustration of a modern high production Yorkshire layout showing Scotch feeds between scribbler and carder engines.

Photo. by courtesy of Messrs. J. J. L. & C. Peate, Ltd., Guiseley, Yorks.

Designed by experts and embodying all the accepted principles of modern woollen carding technique for quality production and highest practicable speeds, our machines are precision built and every machine supplied to the trade is backed by a world wide reputation, which means that it is built from the finest quality materials and incorporates every proved feature of modern practice.

A new and comprehensive catalogue describing and illustrating our carding sets for the English, Scotch and American systems, is in printer's hands. Will those interested please apply on their business letter heads, for a copy when available.

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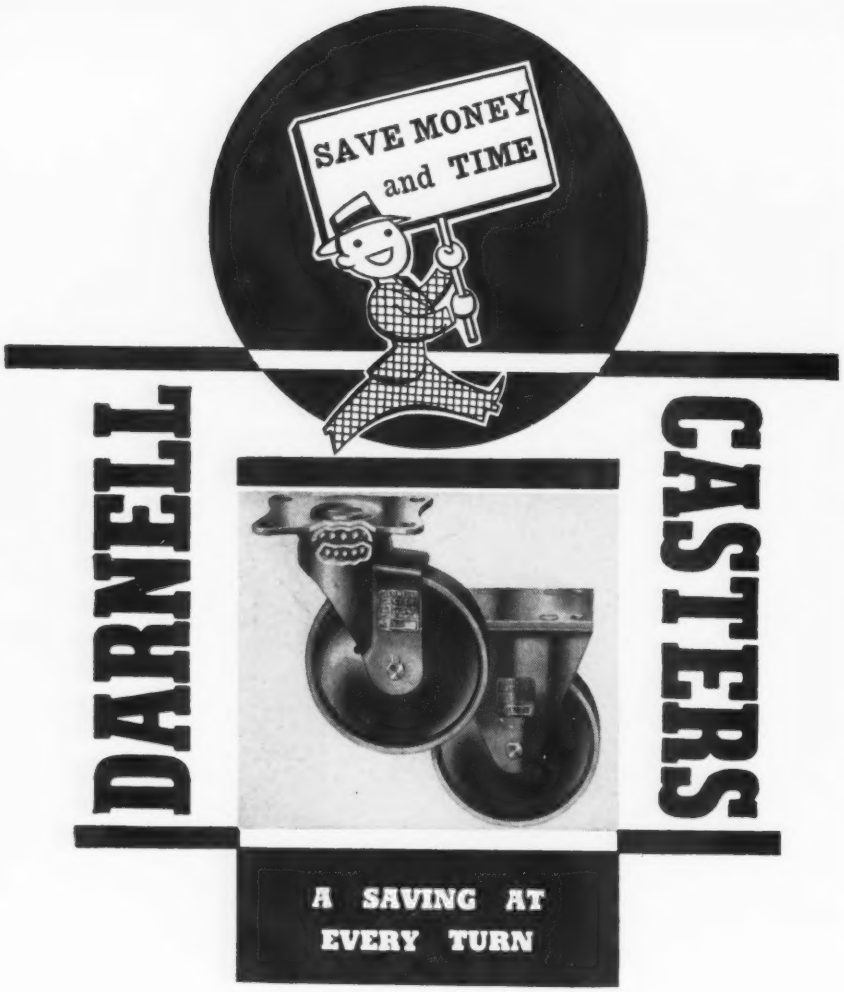

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WRITE FOR
FREE MANUAL

of silica colloid on the weight of the stock is adequate. It is applied with the oil emulsion in the squirrel cage or gutter applicator on the top at the finisher gill box. In wosted emulsions, a part of the water is simply replaced by the Syton; 25% oil, 25% Syton and 50% water is effective in this case. Some mills spinning 32s, 34s, and 36s yarn from 60s, 62s, and 64s top use an emulsion of 30% oil, 30% Syton, and 40% water.

As in the case of woolens, the smooth "draw" of interfiber drag caused by use of colloidal silica facilitates drafting and aids spinning with less licking and evebrows. A silica formula can be applied which will effect both twist reduction and greater strength in the yarn.

MILL TESTS. Many mill tests and production runs have revealed a number of advantages when using colloidal silica. For example, 8.5-run yarn from a blend of stock formerly limited to 7.25 run was spun with a 6% increase in strength. An equal yarn strength with 10% less twist and a 29% increase in strength with the same twist was obtained in another mill.

A mill using 100% worsted clips, 60s grade, spinning to $1\frac{3}{16}$ run gave the following data:

	Front Roll Speed	Weight	Skein Break
Untreated	85	95	74
Syton treated	92	94	87

	Twist Tpi.	Increase in Strength	Increase in Production
Untreated	8.1		
Syton treated	7.6	17.5%	8%

Another run was recorded as follows:

	Untreated	Syton Treated	Percent Change
Twist	8.20 tpi.	6.55 tpi.	−20%
Strength (Skein)	62 lb.	75 lb.	+20%

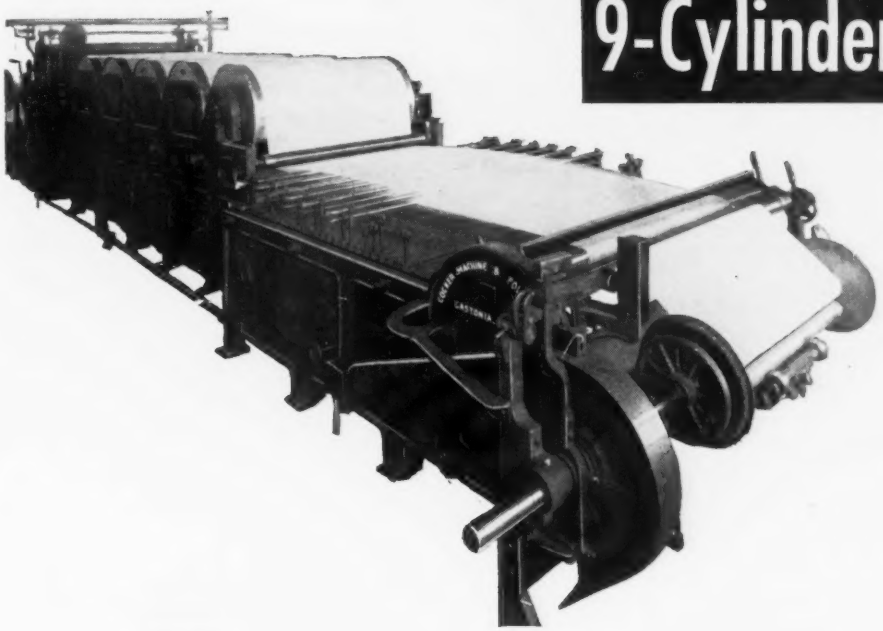
On both mules and ring-spinning frames, the increased yarn strength reduces ends down considerably and allows faster production rates. Front roll speeds may be increased 6 to 8%. Strength tests show consistent increases. The following data is typical of performance using colloidal silica:

	Untreated	Syton Treated
Front-roll speed	111 rpm.	118 rpm.
Skein break	70 lb.	90 lb.
Weight	72.9 grains	72.9 grains
Count	3 run	3 run

The yarn bobbins from the spinning frames are also more compact so that doffing frequency is reduced.

EFFECT ON WORSTED. Worsted mills report similar results when using Syton. A 24s singles increased in skein-breaking strength from 203 to 240 lb., or approximately 20%. In one case where cap spinning was used because of low breaking strength, the treated roving was spun on rings with a resulting increase in production. A limit

The Cocker High Speed 9-Cylinder Slasher pays off 3 ways



1 in better weaving warps

Warps produced on this modern slasher are far evener than those produced on ordinary equipment. Each of the nine cylinders can be set at a different temperature, graduated from very hot to exactly the right finishing heat. They never "take the life" out of yarns. Automatic size level, temperature controls, and flexible speeds, assure absolute uniformity throughout the beam. Compensating loom beam drives assure properly wound loom beams.

2 in greater production

This slasher is heavily built to permit continuous high-speed operation. Down-time is cut to a minimum because of this rugged construction and because every part of the equipment is easily accessible. Every feature required for fast, uniform, and uninterrupted production is included in this fine slasher.

3 in versatility

The Cocker High Speed 9 Cylinder Slasher handles cotton, spun rayon, and filament yarns with equal ease.

NOTE: This slasher can be built with 11 cylinders. Existing 9 cylinder slashers can be converted to 11 cylinders at a reasonable cost and with the use of very little additional floor space.

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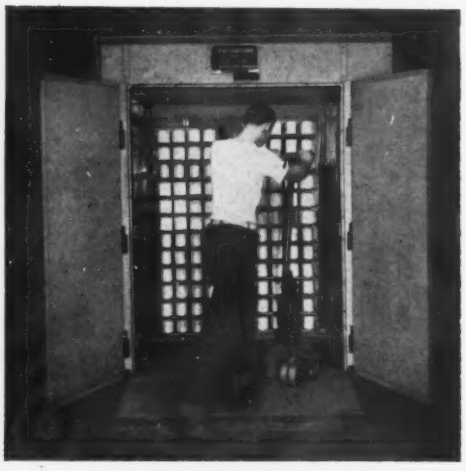
WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Series 4 of Typical "H-W" Conditioner Applications*

THE BAER COMPANY *Reports:*

"H-W" CONDITIONERS *give us satisfied customers*

The uniform results obtained with use of "H-W" CONDITIONERS in the mill of THE BAER COMPANY, Berwick, Penna., help maintain the uniform quality of this company's silk and rayon products, and resultant customer good will. The satisfactory operating results also obtained by use of the "H-W" CONDITIONERS is evidenced by the following report from Mr. R. S. Pratt, superintendent.



View of "H-W" CONDITIONER in mill of THE BAER COMPANY, Berwick, Penna.

"We have at this time three 'H-W' Conditioning boxes in operation in our throwing plants with another one on order from you at the present time.

"We have found these boxes to be very satisfactory because of their ease of operation and the automatic controls which eliminate the possibility of human error and assures the standard setting on all of our yarns. "The use of the 'H-W' Conditioners have given us satisfied customers and we wish to assure you that they have given us a minimum of trouble in their years of operation."

Full particulars in Bulletin UC-1

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spin of 32s yarn was raised to 37s and was 7.5% stronger than the untreated.

Some other results are given in the accompanying charts showing comparisons of untreated and Syton-treated woolen and worsted yarns.

A summary of the effect of use of colloidal silica shows decreased effects of static, more lofty yarns, greater yarn strength with less twist plus greater production. The loftiness of the yarns is of particular interest to knitters where soft handle is desired.

Blends of wool and synthetic fibers spin well when treated.

Increases in yarn strength naturally effect greater production in spooling, winding, dressing, and weaving with fewer ends down.

The silica is easily applied and can be easily removed. The minute silica particles are completely fugitive and can be thoroughly removed from the fiber or cloth by a mild wash.

Colloidal silica has no detrimental effect on weaving, dyeing, fulling, or finishing treatments. It is not injurious to the fibers and has no abrasive action since the silica particles are amorphous. Moreover, it is non-irritant and is not inflammable.

The exact benefits to be obtained from colloidal silica will vary, of course, depending on quality of stock, mill methods, and product requirements. The pattern of advantages, outlined here, however, has been repeated so consistently in hundreds of mill trials —and subsequent production runs— that the development is fast gaining recognition as a major advance in woolen and worsted spinning.

Resist Printing

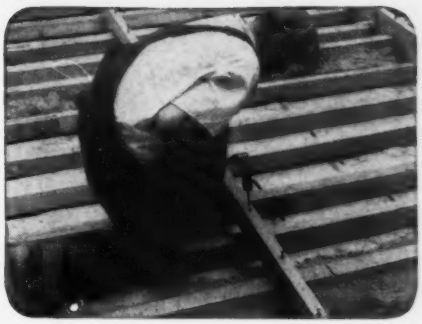
(*Continued from page* 131)

be made in pigment form such as zinc oxide, titanium dioxide, china clay, etc., where necessary.

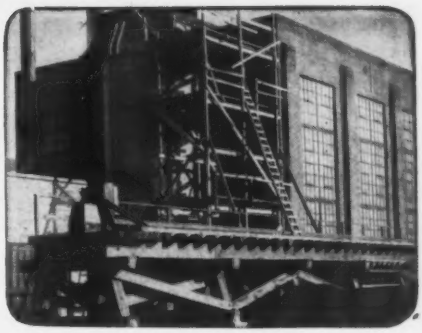
For the best white effects, the type of print paste known as a "first-printed" resist is used. The term denotes the fact that the resist paste is printed on the cloth and dried, before the padding liquor is applied. The advantages here are obvious. In the first place, the print paste has the best chance of functioning properly by being in the cloth and filling up the yarns and fibers before the impregnation with the dyestuff can take place. This is mainly a physical action; the chemical nature of the resist comes into play during hot treatment required for the oxidation of the indigosol dye.

In passing, it may be observed that the soluble nature of the dyestuffs makes possible the use of an impregnation process of dyeing which, in turn, by its speed aids the production

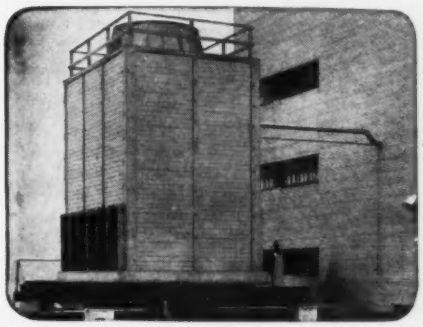
6 common conditions where *WOLMANIZED PRESSURE TREATED LUMBER protects against DECAY and TERMITES



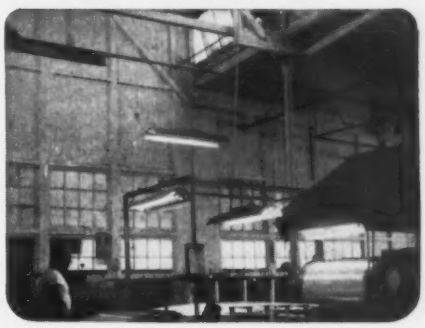
1. Wherever moisture is condensed because of concrete or masonry.



2. Ground moisture and rain held in joints, etc., of outdoor structures.

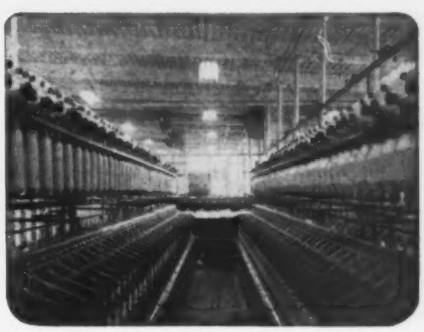


3. Cooling towers and similar structures exposed to direct water contact.



4. Where steam and vapor from industrial processes are prevalent.

5. Wood used in or near the ground open to attack by termites.



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That's because it is pressure-treated with special chemical salts to give lasting protection against wood-decay and termites.

And the extra cost of using Wolmanized lumber in the first place is actually less than the cost of replacement labor alone, on wood which has failed prematurely.

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- twisting
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- converting

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of good resists by limiting the time of saturation of the fabric with dyestuff solution. This factor lends to the resist-print paste the maximum amount of resistance to dyeing.

Dyestuff makers have themselves perfected resisting mediums which may be incorporated in the print paste, whether white or colored. As an alternative to these, in Table I is an indication of the lines to be followed where other resisting mediums have not given full satisfaction. It must always be borne in mind that individual dyes may require different treatments and that local conditions vary very widely.

This print paste given may obviously be varied by adding different proportions of chemicals, thickenings, etc. The use of glue size and crystal gum is specially to be noted as being of value in increasing the solid content of the paste without too much limitation of the powers of penetration of the thickening. While it is understood that the surface resistance of such pastes must be high, the effect of carrying the resisting chemicals into the fibers lessens greatly the danger of after-oxidation of the resist in the finished goods.

The resisting effect may be increased by fixation of the pigment by albumen or other means. The latter may include the use of urea and formaldehyde added to the print paste with the object in view of resin formation during steaming. This will take place when the white effects are printed alongside colors.

If whites only are printed, steaming will have to take place prior to padding for dyeing, if such fixation is desired either with albumen or urea-formaldehyde.

In all cases where pigments are used in the print pastes, there is some risk of the print paste "sticking-in" in the engravings of the roller. This leads to poor resist effects because of the lessened amount of print paste carried by such clogged-up engravings.

A further danger of albumen-containing print pastes is that of frothing, which may lead to other forms of damage in printing as well as in poor resist effects.

Frothy print pastes interfere with the flow of the print paste down the face of the doctor blade and away from the surface of the copper roller. Any grit or other foreign material may therefore be retained by frothy or sticky print paste on the cleaning edge of the blade. The result is the appearance of white streaks and scums of the resist paste throughout the dyed ground.

COLORED RESISTS. As the ground and print colors are both fast, the vat

FLASH DRY SAMPLES

to determine moisture content

The moisture content of yarns and fibers is determined accurately and rapidly by the Moisture Teller, Model 278T-12, equipped with a sample pan 8" in diameter and 12" deep.

To test a specimen, a weighed sample is placed in the drying chamber. A blower forces a large volume of heated air through the material. The ventilation provided by the fan removes the moisture liberated by the temperature. The result is quick drying of the test sample. At the end of the drying cycle, the sample is reweighed. The loss in weight represents the amount of moisture driven off. Thus, an accurate gravimetric moisture determination is completed in just a few minutes. A large sample of wool can be tested in 12 minutes.

The drying chamber is double walled. The heated air enters at the top and is forced down through the sample. At the bottom of the pan, the hot moisture laden air enters the space between the walls of the chamber and rises upward to exhaust vents located around the upper periphery of the sample pan. The reversed flow of the spent hot air between the double walls assures even temperature throughout the length and breadth of the drying chamber. Thus, the entire sample is dried at a uniform temperature. The chosen drying temperature is maintained by means of an adjustable thermostat. Drying time is controlled by a timer switch.

The Moisture Teller is a simple, sturdy, practical instrument, equally adapted to use in either the plant or the laboratory. Two pans are furnished with each unit so that while one is in the Moisture Teller the second can be used in preparing the next sample.

Other sample pans from 1" to 12" in depth can be furnished to suit special requirements.

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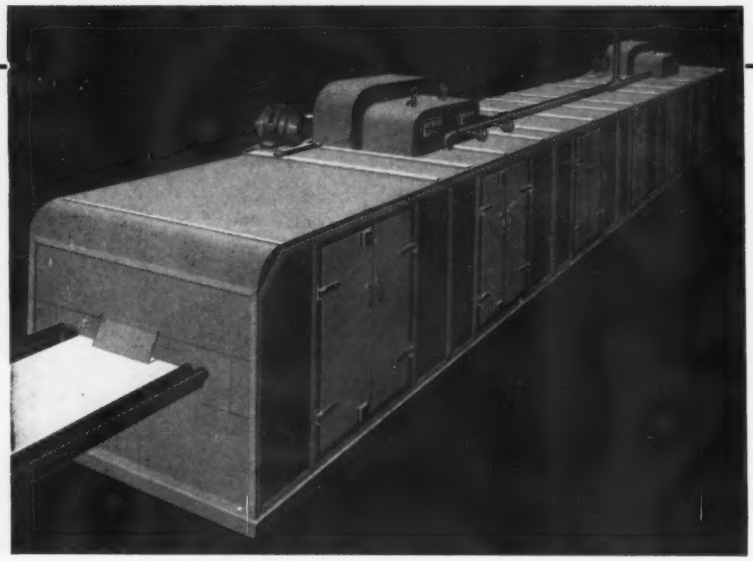

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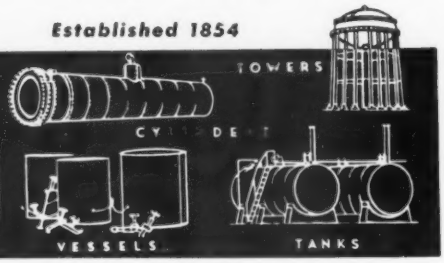

dyes are used in printing colored resist effects. Similar thickenings and pigments are used where possible. If very dark colors are required in the colored printed effects, it may be necessary to use starchy thickenings instead of gums, as the latter do not give such high color yields. Some sacrifice of the resisting properties of the print pastes is thereby curtailed; but as the purity of the colored effects is not endangered, this does not matter.

The main objective in the printing of colored resists with vat dyes is to keep the color from spreading beyond the bounds of the design in the form of a halo. Actually, it is the soluble ingredients which cause trouble of this sort.

To insure freedom from white halos round the edge of the colored resists, it will be necessary to use vat dyes fixed by a very short steaming. The selection of suitable brands is not usually a very difficult matter. The amounts of reducing agent, alkali, and other chemicals must be gaged carefully to avoid any excess, if necessary, by laboratory trials before proceeding with bulk work.

Two important points are to be noted: (1) the excessive use of glycerine, urea, or other hygroscopic agents should be avoided. Easily fixing vat dyes will not require them in any case. (2) Soda ash should be used instead of carbonate of potash; the former is less likely to absorb excess moisture during the ageing or steaming process.

DRYING. Prior to the padding process for the application of the dyestuff in both white and color resist work, it is very important to insure the setting of the resist pastes. After either printing or steaming, the goods should be dried very strongly immediately prior to the entry of the goods into the nip of the padding mangle. The main reason for this is that print pastes of almost any type—but especially those containing alkali and reducing agent—are likely to absorb moisture on lying. This in resist printing reduces considerably the chances of producing first-class work.

While the passage through the dye liquor is only momentary, it is plain that a slightly softened resist paste (due to absorbed moisture) will tend to bleed at the edges on passage through the padding nip. The resist effect is also poorer by allowing some penetration of the dye liquor at the printed parts. The effect of blurred edges on the printed design detracts greatly from the appearance of the finished work.

After printing, steaming if necessary, and drying, the goods should be immediately padded through the thickened indigosol dye liquor. The

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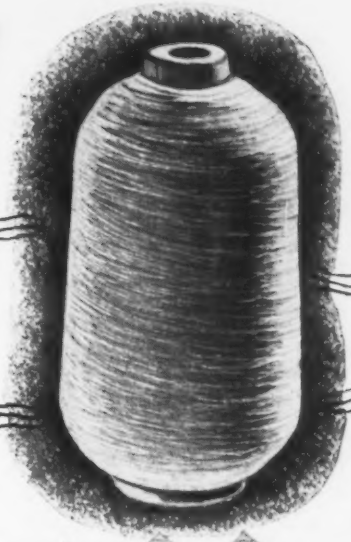

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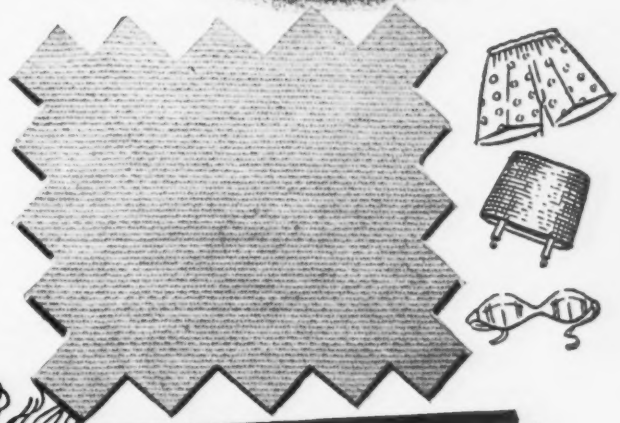

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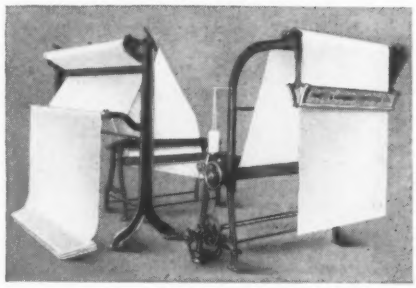

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thickening of the dye is another device for preserving the quality of the resist effects. Tragacanth or locust-bean thickenings are best for this purpose, the latter being much cheaper and just as effective. Soluble cellulose thickeners will also serve the purpose equally well.

In order to avoid ending and shading, a very small color trough (preferably steam-jacketed) is used. The three factors of (1) thickening, (2) small quantity of liquor, (3) high temperature of padding liquor reduce to vanishing point the danger of shading and ending.

When good penetration is desired on thick fabrics, the top roller of the padder is fed with the thickened liquor from a tank suitably placed above the mangle. The lower roller, of course, revolves in the pad liquor and feeds the latter up to the nip through which the printed cloth is passing. The device of lapping the bowls is also recommended but is not very advisable on account of the constant changes of lapping made necessary.

A further useful suggestion is that of the use of a pin-pad on the printing machine for the application of the thickened dye liquor. This is a roller engraved all over its surface with fine stippled dots very closely set together. It is possible thus to use a very thick dye liquor and to preserve the quality of the printed effects by avoiding spreading of the edges of the pattern. Again, where plant equipment does not permit the running of the goods straight from the padder into the developing bath, this pin-pad method, with subsequent drying, gives very good, clear-cut resist effects. A further modification is that of padding the goods on a two-bowl padder and leading the fabric immediately onto drying cylinders.

Development takes place by a separate passage in the open width through hot, dilute acid as described. The most economical method is, of course, that of leading the goods immediately into the developing liquor from the padding nip. Concerning this latter point, it is of first importance to insure as short a passage as possible from the nip of the padder into the developing liquor in order to preserve the sharp edges of the printed resists by limiting the time of saturation of the printed parts of the padding liquor and so lessening the tendency to bleed or flush at the edges.

The developing time should be 2 to 3 sec. with a short air passage of 10 sec. immediately following. It is very important to rinse the goods thoroughly prior to neutralizing in a break bath of soda ash.

It has been pointed out that neu-

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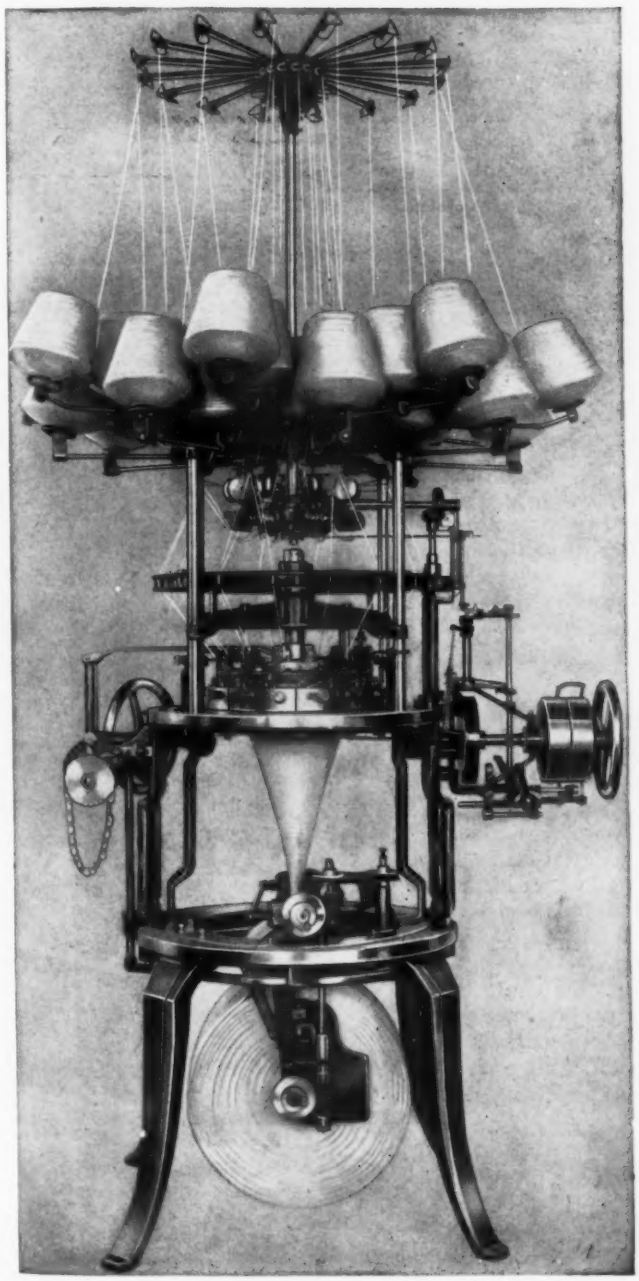

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tralizing without rinsing may lead in some instances to slight vatting or reducing of the ground color by the reducing agent in the resist paste in conjunction with the hot alkaline neutralizing bath (3 lb. soda ash per 100 gal. liquid). This would lead, in turn, to slight fixation of the ground shade in the resisted parts with subsequent tingeing of the white effects.

After neutralizing, the goods should again be very thoroughly rinsed and soaped at the boil. The boiling soap treatment is of the first importance as only thus can the final traces of the indigosol ground be removed.

It has to be remembered that the indigosols are substantive and have of themselves an affinity for the fiber even in small traces such as would penetrate the resist paste during the padding and developing process. The goods may afterwards be tested by immersing remnant in the developing bath; then if the white resist portion is slightly tinged with the ground color, the indication is that the goods require further soaping.

A final note on the actual padding process should be added here. In threading up the goods into the nip of the two-bowl padder, the angle of the piece goods entering the nip should be such that the padding liquor does not run down the piece. The danger here is that of spoiling the definition of the design by causing the printed portions to flush at the edges, as previously pointed out.

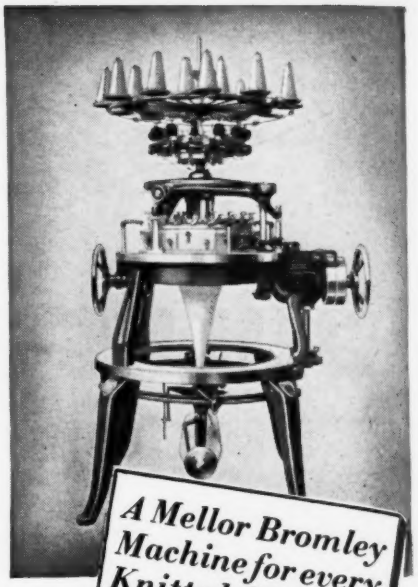
The use of stabilized azoic dyestuffs as colored resists under indigosol grounds has also been suggested; but as their fixation entails the use of acid steaming in addition to the usual neutral steaming required for the fixation of the vat-dye resists printed along with them, it is not considered necessary to do more than refer to the possibility of their use.

Textile Courses

(*Continued from page 135*)

provide the student with a basic knowledge of quality-control methods for textile processing, and fiber identification chemically and through use of the microscope. Another new course is Instrumentation and Control. It will deal with the construction, operation, and maintenance of recording, indicating, and controlling instruments used in the mill proper rather than with those used in the testing lab.

FUNCTIONAL APPROACH. Yarn manufacturing will be taught by a functional rather than a mechanical approach. Instead of studying each



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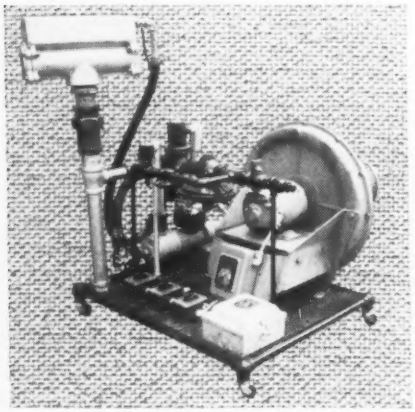

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machine as a whole in sequence of yarn manufacture, the functions performed will be analyzed individually. Thus, sophomores will study opening and cleaning, doubling and evening, and drafting, as these functions are carried out by all yarn-manufacturing machinery. Juniors will concentrate on the functions of twisting and packaging. Seniors will go on to coordinate this material in its more technical aspects.

Instruction in printing and finishing has been limited to Dyeing majors under the old curricula. But with the new arrangement, the fundamentals of these processes will be presented also to Manufacturing students in an expanded dyeing course. A brief survey of elementary organic chemistry, important aspects of textile chemistry, and dyeing will be carried over from the old course. Color matching is to be discontinued for Manufacturing seniors in view of the enlarged scope of the basic course.

Knitting Mechanics, a new addition to the Knitting Option, will cover such material as inter-relationship of yarn number, yarn diameter, gage, cut, stitch, length, fabric structure, and weight; production problems; and proportions of yarns in multiple-thread work.

Textile Chemistry and Dyeing majors will have their general chemistry courses distributed more evenly over the four years. Chemistry of Colloids will be studied in the senior year along with Advanced Dyeing, Fabric Finishing, and Textile Printing. Chemistry of Natural and Synthetic Fibers, another new course being offered to Dyeing Seniors, will emphasize the production of synthetic fibers, the relationship between the chemical structure and physical properties of fibers, and the nature of the chemical reactions which produce degradation of fibers.

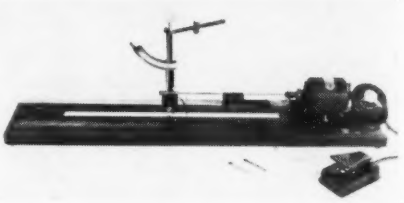
Heat Exhaustion

(*Continued from page 133*)

average. Their salt intake is inadequate at high rates of sweating, and they become salt deficient. Prevention of these cases might be achieved by increasing the salt intake.

Recently, however, Dr. C. G. King warned that increased consumption of salt in hot weather is of less significance than was formerly believed. Earlier reports of supposed benefits from extra salt were largely misinterpreted, he says, because the gains that were observed were caused chiefly by the increased water intake which the salt had caused. About ten grams of salt per day, as supplied in ordi-

Precision Twist Testers



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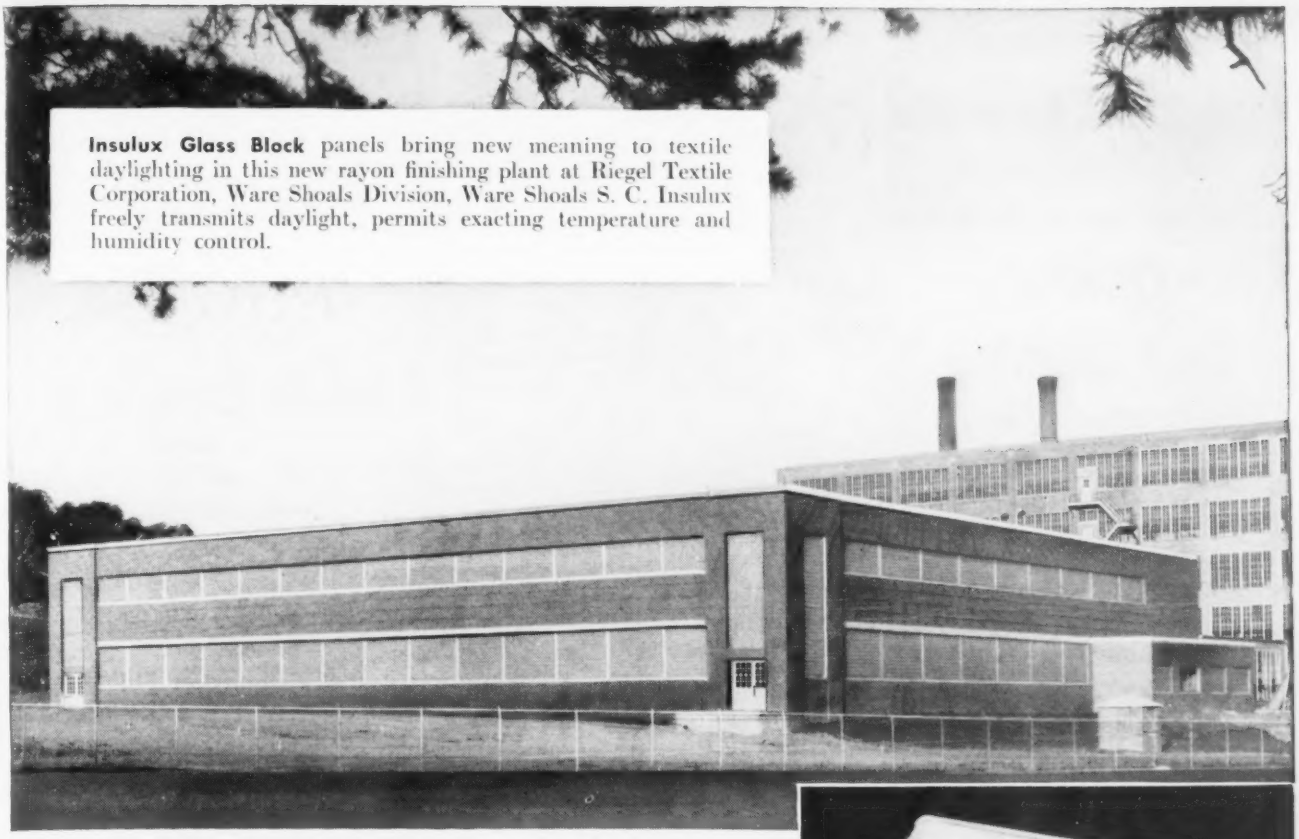

Insulux Glass Block panels bring new meaning to textile daylighting in this new rayon finishing plant at Riegel Textile Corporation, Ware Shoals Division, Ware Shoals S. C. Insulux freely transmits daylight, permits exacting temperature and humidity control.

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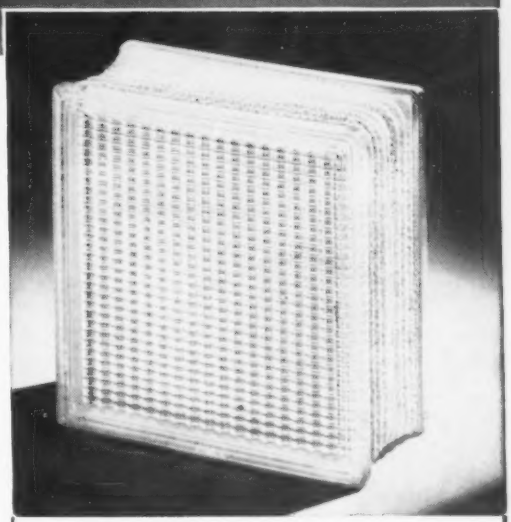

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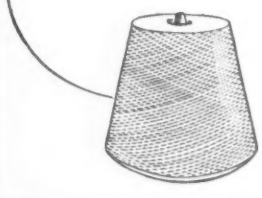

narily seasoned food, is adequate to meet one's needs for a long period. These observations stress the point that sufficient water has to be taken in on hot days to induce perspiration. Water is the main point in preventing heat damage for workers in the textile industry.

Extremes such as heat cramps, heat exhaustion, and heatstroke are comparatively rare. More frequent are the ordinary feelings of lack of energy and drowsiness induced by hot weather and excessively hot working conditions. The result is diminished output and decreased efficiency.

Statistics have revealed some particular traits of working on hot days. The worst period of the day is between 2 and 5 o'clock in the afternoon. Second largest number of heat diseases occur between 7 and 10 o'clock at night. Working inside a plant may be more harmful than outdoor work, even in the sun. It sometimes takes a long time before indoor temperatures start dropping in spite of a decrease in external temperatures.

Negro workers are much more susceptible to heat than white workers—in contrast to a widespread prejudice. A colored worker may suffer when a white worker still is going strong.

Statistics show that 28 times more heat disease occur in southern regions than in northern regions of the United States.

Air conditioning is widely employed to produce an atmosphere which will result in the best product of manufacture or the most economical operation. But, if air conditioning is accompanied by very high humidities, a serious health hazard may result unless precautions are observed before entering and upon leaving the plant. If the humidity is high enough to result in damp clothing at the end of the shift, a complete change of clothing, and suitable locker and shower rooms are recommended.

Safety Program

(*Continued from page 125*)

where, how, and why the injury-producing accidents occur.

To supply these details, 446 plants dyeing and finishing either woven piece goods or yarn cooperated with the Bureau of Labor Statistics by furnishing summaries of their operations, employment, and injuries for the year 1945. These plants reported a total employment of over 64,000, with more than 139,000,000 employee-hours worked during 1945. The reports listed 2,876 disabling injuries, including 8 deaths and 129 cases of permanent impairment. The coverage of the sur-

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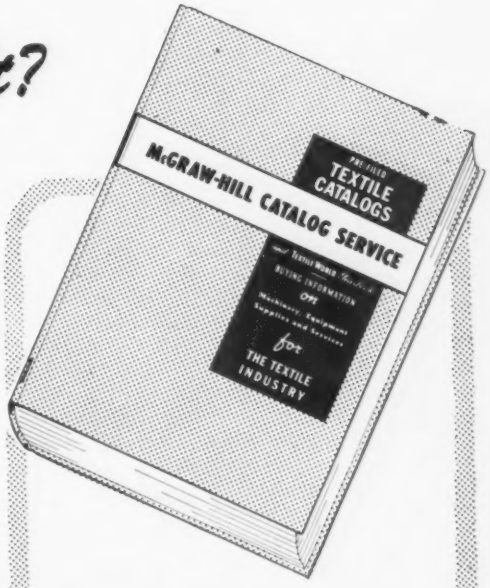

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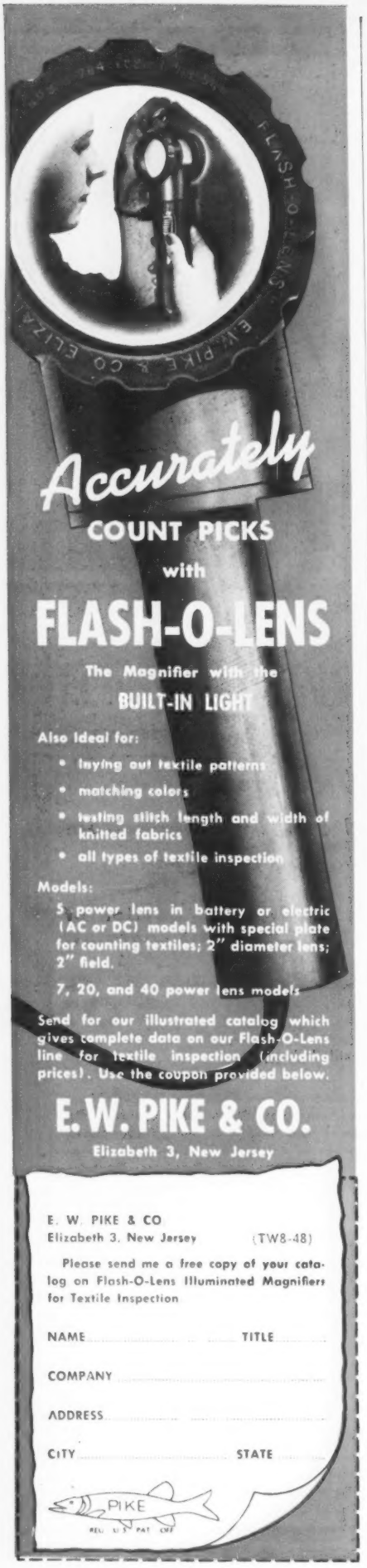
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vey, therefore, included a high percentage of the field.

ACCIDENT ANALYSIS. For dyeing and finishing as a whole, the most prominent agencies of accident, in descending order of relative importance, were: machines; working surfaces; vehicles, primarily hand trucks; rolled cloth; containers; chemicals; and hand tools. Items in these groups were involved in three out of every four of the reported accidents. Machine accidents were also of particular importance because they produced a high proportion of the more serious injuries. Nearly 10% of all the injuries resulting from machine accidents resulted in death or permanent impairment.

Among the accidents involving working surfaces, falls on slippery floors were most common. Practically all of the vehicular accidents resulted from the misuse of hand trucks. In many instances, workers were caught between moving trucks and fixed objects or had their fingers pinched as they attempted to move the trucks in spaces where there was inadequate clearance. In most of the accidents involving rolls of cloth, the injuries were strains resulting from attempts to lift or move the heavy rolls.

The specific containers most commonly involved in accidents were bales, cartons, kettles, buckets, vats, and bins. The accidents involving chemicals most commonly consisted of the absorption of dyes or printing colors into the skin, resulting in dematitis.

ACCIDENT CAUSES. Of the 7,340 accident cases for which records were obtained, 3,701 were reported in sufficient detail to permit determination of the specific unsafe condition which resulted in the accident. Practically all of the unsafe conditions involved in these accidents fell into one of three general groups. Hazardous arrangements or procedures were responsible for nearly 43% of the accidents, defective agencies were responsible for 36%, and improperly guarded agencies were responsible for 19%.

The lack of proper lifting equipment or the lack of sufficient help in lifting heavy objects was most common among the particular unsafe conditions included in this general group.

The practice of moving rolls of cloth by hand and of hand-lifting the rolls into position on machines is quite common, even though some of the rolls may weigh as much as 500 lb. In placing one of these heavy rolls on a machine, the workman generally moves the roll as near to the machine as possible on a hand truck from which he lifts one side of the roll into position and then lifts the other. Although the injury possibilities involved in handling heavy rolls of cloth are obvious, relatively few of the plants had taken any steps to eliminate the hazard.

In one of the plants visited, however, the problem was solved by plaiting all cloth into box-type hand trucks at the delivery end of each machine, which practically eliminated rolls of cloth in the processing operations.

In another plant, specially designed hand trucks are used in place of the loading and unloading jacks at the entry and delivery ends of the machines. The cloth is threaded directly from one of these trucks through the machine and into a second truck at the delivery end, thereby eliminating the lifting at both ends of the machine. In another plant, powered lift trucks are used to place the cloth in the machines, and several plants have installed block and tackle equipment to do the lifting. One of the plants visited had also installed overhead rails on which the block and tackle with its suspended load could be moved from one operation to another.

To reduce the number of strains experienced by workers in the warehouse, one plant constructed special racks for the storage of cloth rolls. These racks were built to the same height as the beds of the hand trucks used in transporting the cloth. Since storage on the racks was limited to one roll high, the cloth could be rolled on and off the hand trucks without lifting.

The need for improved lifting procedures was not limited to the handling of rolled cloth. In the gray rooms, make-up, shipping, and warehouse departments, much of the problem centered in the handling of bales and crates. In the color shops, kettles and drums were the agencies most frequently involved in lifting accidents.

Unsafe planning or lay-out, either of traffic or process operations, was second in importance among the agencies classified as hazardous arrangements or procedures. Hand tools, chemicals, machines, and containers were the agencies most frequently involved in these accidents. The extensive use of sharp knives to cut cloth constitutes a hazard.

Operating procedures present many possibilities for the workers to come into direct contact with dyes and chemicals that are toxic. As a result, skin infections are an outstanding problem in many departments. Some plants attempt to meet the problem by transferring the more susceptible workers to other assignments. In some instances, all workers exposed to contact with dyes or chemicals are given periodic medical examinations in an effort to catch the cases of dermatitis in their early stages. Use of less toxic materials or re-engineering of the processes to avoid worker exposure would

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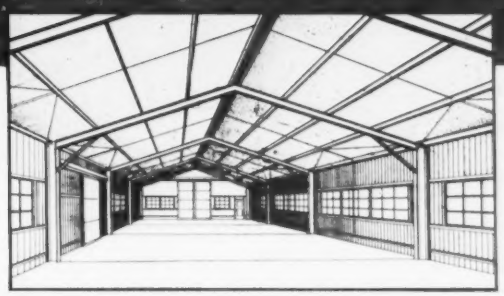

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eliminate about 25% of the injuries experienced by workers in the piece-goods dye-color shops and print-color shops; about 15% of those experienced by workers in both the piece-goods and yarn-dye rooms; and from 10 to 12% of the injuries incurred in mechanical and screen-print shops.

Machine operation most commonly resulting in injury was that of threading heated dry cans, which produced a great many burns. A less common unsafe procedure, but one which produced more serious injuries, was the practice of permitting workers to enter heated or fume-filled chambers of machines to make adjustments.

The unsafe practice of transporting hot starch, dyes, and other chemicals in open buckets from which the materials can splash, or in glass containers which may break if dropped, is common and was found to be responsible for many injuries. Hot starch, is usually carried in buckets from the starch room to the mangle and poured into the machine by hand. Reports indicate that the starch frequently splashes on the worker performing this operation and often causes very painful burns. One plant visited eliminated this hazard by placing the starch-mixing operation on the floor above the finishing room and by running a pipe directly to the mangle from the mixing tank. This simple arrangement not only eliminated the hazards involved in transporting the starch but also reduced the amount of labor required.

In relatively few plants was there any indication of a serious traffic problem. One plant reported that it had had a number of accidents involving its powered industrial trucks at blind corners, but this hazard had been overcome by installing electric eyes across passageways leading to danger points.

A safety practice adopted by many plants is the installation of automatic plaiters in kier boilers. Hand plaiting in kiers is particularly hazardous because the heat may cause the worker to faint and risk suffocation by the cloth piling upon him. Accidents of this type were not uncommon in the past; but, largely because of the widespread use of automatic plaiters, none were reported during 1945.

Poor housekeeping was a common source of accidents in dyeing and finishing. Another hazard was the general lack of a safe means for reaching elevated parts of machines.

DEFECTS AND SAFEGUARDS. Slippery working surfaces were an outstanding source of accidents, particularly in boil-off or bleaching departments, dye-color shops, dye rooms, mechanical-print shops, ageing departments, drying departments, and gray rooms. In general, there was little evidence of any effort to reduce the hazard of slippery floors. In a few instances, rough-grained concrete floors had been installed, and in some plants the workers were furnished with wooden clogs for use in departments where the floors were generally wet.

Sharp-edges, such as on metal tie bands on bales and crates, clips in the selvages of cloth passing through machines, and slivers projecting from shells which were rotating on machines, were particularly common sources of severe cuts and abrasions. Projecting nails or splinters on working surfaces, splintered handles and rough frames on hand trucks, broken floors, and rough or splintered benches, tables, and chairs were also responsible for many injuries of this nature.

The proportionate volume of accidents ascribed to inadequate guarding was unusually high—19% as compared with less than 10% in most of the industries surveyed by BLS during recent years. Accidents arising from inadequate guarding tend to produce serious injuries, and over 13% of the injuries in this group were cases of death or permanent impairment.

Machines, boilers, and other pressure vessels, containers, and working surfaces were most frequently involved in accidents resulting from inadequate guarding. Lack of guards on squeeze rolls accounted for a number of injuries and lack of splash guards on washing, soaping, and dyeing machines was primarily responsible for many cases of dermatitis.

One of the most serious hazards in the make-up departments is in the operation of hookers or folding machines. Many management officials maintain that no effective guard can be applied. In two of the plants visited, however, guards had been designed. One of these, a gate guard, had not yet been installed, so its effectiveness could not be checked. The other, which was operating satisfactorily, consisted of an electric eye across the front of the machine which activated a brake on the motor when the operator's hands entered the danger zone.

Most of the accidents ascribed to unguarded boilers or pressure vessels were cases in which workers touched hot steam pipes or other heated surfaces. The unguarded containers involved in accidents were chiefly uncovered buckets used in carrying acids or other harmful chemicals. Unguarded working surfaces were generally elevated platforms or walkways which had not been provided with adequate railings; a number of accidents were traceable to unguarded manholes and unguarded cloth bins.

UNSAFE ACTS. Most of the accidents attributable to unsafe acts were

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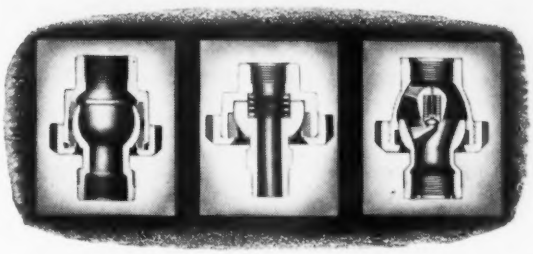

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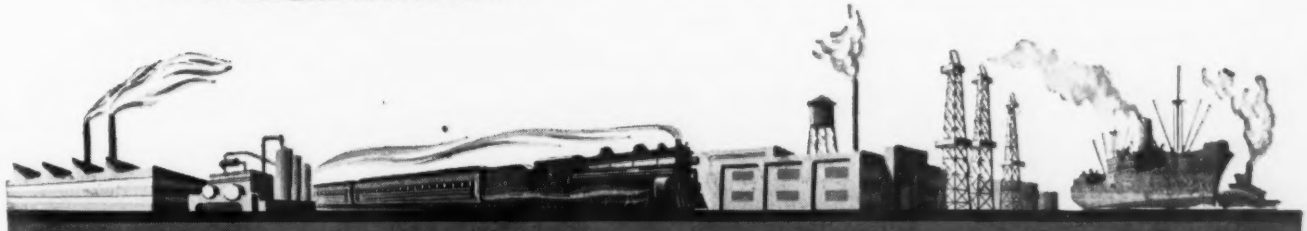

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associated with two general groups: Nearly 40 resulted from use of unsafe equipment or unsafe use of equipment, and 38 resulted from workers assuming an unsafe position or posture.

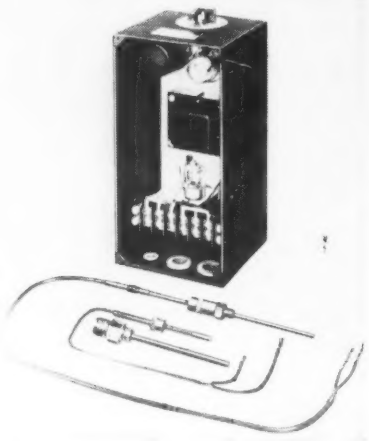
The outstanding type of unsafe act was taking an incorrect hold or not maintaining a good grip on objects being handled.

The use of hand tools or other equipment for purposes other than that for which they were designed was a common source of injury. Other examples of misuse of equipment included running with hand trucks and lack of care in handling vehicles at blind corners. Basically, all of these unsafe acts indicate inadequate supervision. *End*

Textile Equipment News

(*Continued from page 148*)

Temperature Controller Is Simple, Fast, and Precise



***Electrical resistance bulbs** are available in several types for use with the new controller.*

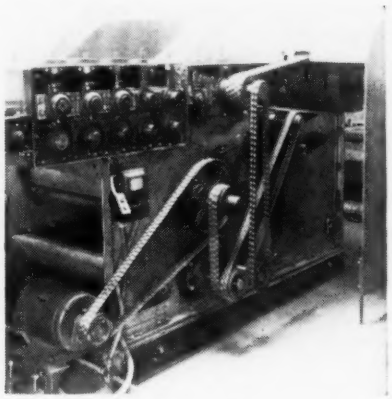
A temperature controller, said to be simple, fast, and precise, has been developed by the Instrument Div. of Thomas A. Edison, Inc., West Orange, N. J. The device uses a single electronic tube with an electrical resistance-type bulb for thermal pickup and is of the on-off type.

The use of the resistance bulb permits location of the sensing elements at a point remote from the control panel and eliminates the necessity of thermal compensation. This device, which is non-indicating, may be used to control temperatures to close tolerances in solids, gases, or liquids. Units are available to cover the temperature range from −100° F. to 1,200° F. and are adjustable within a range of several hundred degrees.

Supply voltage may be 115 or 230 v., 50 to 60 cycle a.c. Load capacity is 30 amp. at 115 v., 20 amp. at 230 v. Accuracy of the controller is said to be independent of usual voltage variation. Normal response time is under three seconds, due to the patented bulb construction.

A 5x5x10 in. control panel, weighing less than 8 lb., complete, is furnished and is provided with conduit knockouts and a rugged terminal board. This may be located at any convenient place and at considerable distance from the temperature zone.

Machine To Decorticate Wet or Dry Fiber



***The Fibracator**, a fiber-decorticating machine said to be capable of handling either wet or dry leaf or bast fiber, including ramie, has been developed by Fiber Industries, Inc., 298 5th Ave., New York, N. Y. Decortication is said to be accomplished by reducing the plant stalk to a uniform ribbon by rolling through a series of rubber rollers which also act as dejuicers. The next action is nicking the cuticle or plant exterior by running the fiber over a raised surface. The nicked cuticle is then stripped off the fiber by a series of blades. A similar action takes place on the substance beneath the cuticle, and the clean fiber emerges, according to the manufacturer.*

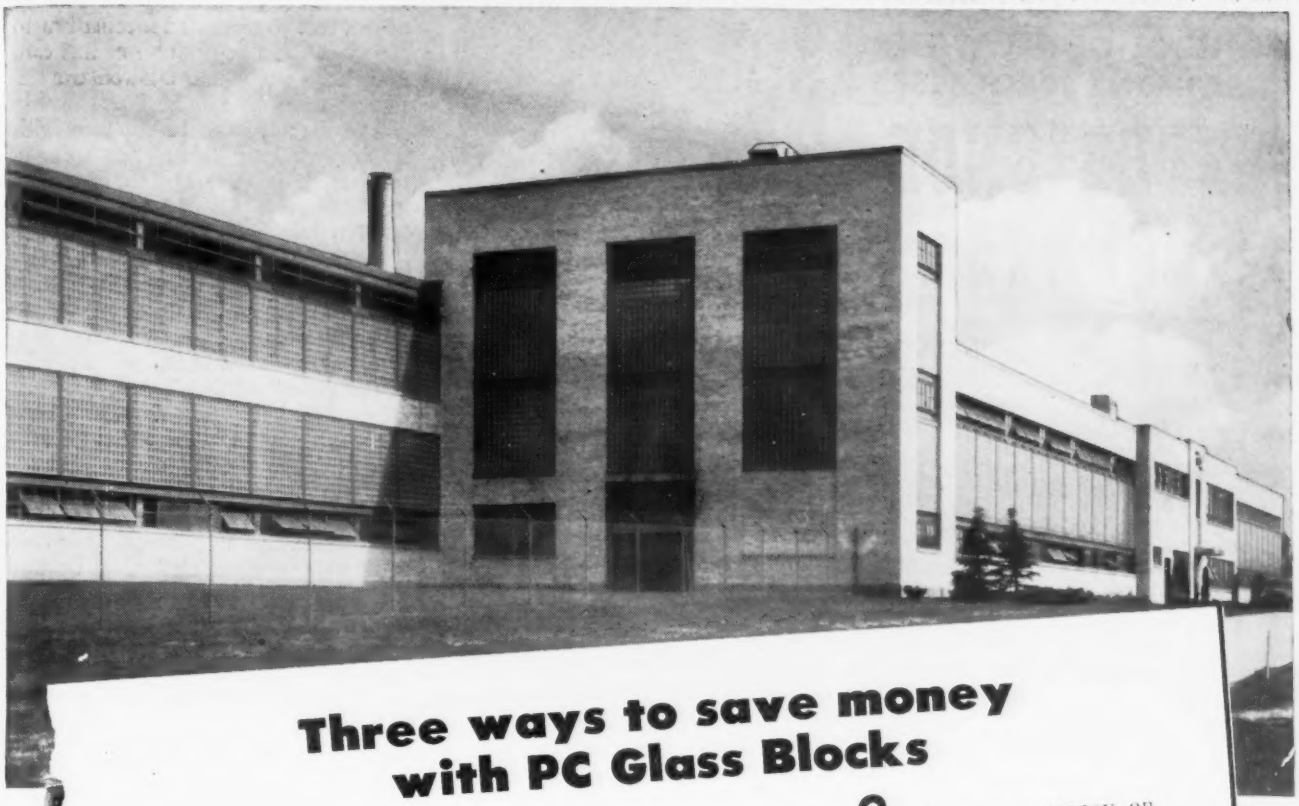
Power-Driven Unit Cuts, Prints, Seals Labels

The Thermo-Print-Labeler, a new development of the Package Machinery Co., Springfield, Mass., is a versatile unit suitable for labeling both wrapped and unwrapped textiles, such as towels, bed sheets, pillow cases, etc.

Using die-cut labels in roll form, the Thermo-Print-Labeler automatically cuts each label, imprints it with price, date, code, or other information, applies heat to activate the thermoplastic coating, and seals it firmly in the position desired. A circular brush passes over the label and is said to assure a tight, lasting seal, even on an irregular surface.

The product to be labeled is placed

Photo, courtesy of American Brake Shoe Company: Foundry and Press Room in the Brake Shoe and Castings Division at Meadow Lands, Pennsylvania. Architect, Harry Lucht.



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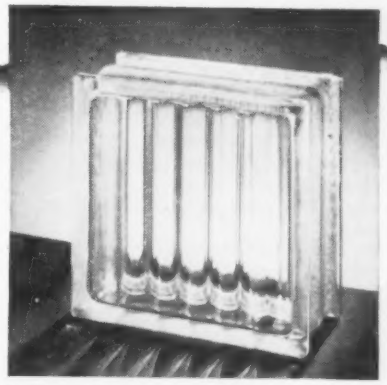

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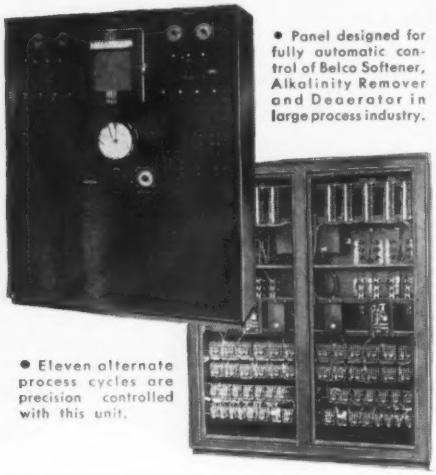

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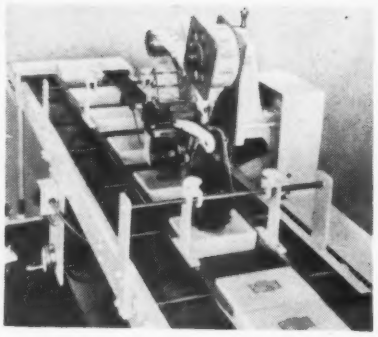


Labels are printed as they are used by this Thermo-Print-Labeler, preventing stacks of labels from becoming obsolete.

on the in-feed conveyor of the labeler. As the product moves along, it trips an overhead lever which activates the labeling mechanism. Thus a label is imprinted and fed only when the product is in position to receive it, eliminating waste. Speed of labeling depends on the character of the product, and will vary between 20 and 60 pieces per minute. Speed can be adjusted by simply turning a hand-wheel.

The dimensions of the in-feed conveyor accommodate products 3 to 18 in. long, 2 to 10 in. wide, and 1 to 6 in. high. The size of the label may vary within the following range: 2 to 2¾ in. wide, and 1½ to 2¾ in. high. The printed message itself may also vary in size. Message may be quickly changed by inserting a new printing plate.

The Thermo-Print-Labeler with conveyor is operated as an independent unit, but it can be coupled up to the discharge of practically any standard cartoner or wrapping machine. The machine uses labels in economical roll form.

British Winder Has Individually Driven Spindles

A new, individually driven-spindle bobbin winder, the Weft Master, has recently been announced by Muschamp Taylor, Ltd., Pollard St., Manchester 4, England.

Each spindle on the Weft Master is a completely independent unit. Should attention be required, the whole spindle box can be removed in a matter of seconds without interfering with the running of the rest of the machine. A spare replacement box can be fitted very rapidly.

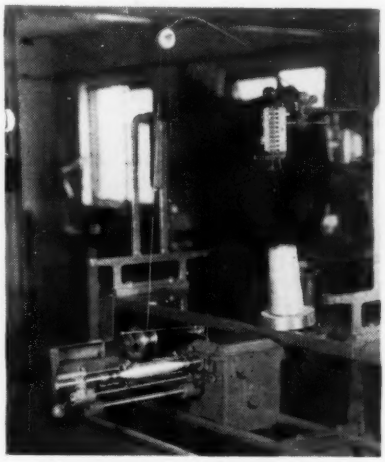
The new machine has been designed to give spindle speeds in excess of 6,000 rpm. The new drive makes it possible to have very slow start, a feature desirable in the winding of delicate yarns and particularly when winding crepe by unrolling.

A new type of 3-point cam makes it possible to give a positive layer-locking movement to the thread guide without adding any complicated mechanism to the machine. The position of this cam is vertical, which has allowed the design of a narrow spindle box.

The machine can be supplied with spindles or can be of the "spindleless" type. It will accommodate any length of bobbin from 6 to 9½ in. The build is by means of a feeler disk. It is therefore possible to wind any normal diameter of bobbin. The change from one length or diameter to another is said to be only a matter of a few minutes' adjustment.

The machine will wind either standard parallel bobbins or cops. It is supplied on request with an automatic bunch builder for making the yarn reserve for automatic weaving.

Different equipments are available to wind either by drawing overend from cop, cone, or cheese, or by unrolling from cheese or double-ended bobbin, or by unwinding from skeins. The overend equipment can be arranged to wind from yarn supply situated below the machine or above the machine, as favored by users.



Spindles are driven individually at 6,000 rpm. and up in this new bobbin winder.

Static Eliminators Available In Any Width

A line of static-eliminating equipment suitable for use in textile processing has been developed by Takk Corp., Newark, Ohio. The equipment usually consists of a high-voltage transformer, cable, ground cable, and eliminator bars. Bars are available in effective lengths from 1½ to 108 in.

A feature claimed for this equipment is its great flexibility, as it is said to be generally completely effective at any distance from the material up to 6 in. away regardless of speeds, type of material handled, or intensity of the static charge involved. A second major feature is the high degree of safety to personnel. Use of shielded cable

THE BEST WAYS TO PROCESS RAYON

on your own mill machinery

- **Spotlights practical methods in:**
  - spinning
  - throwing
  - weaving
  - knitting
  - dyeing
  - finishing

Photographs, drawings, diagrams, graphs and tables make this a down-to-earth, easy-to-follow guide.

Here are detailed, step-by-step explanations showing you how to handle rayon on existing or available commercial machinery. Here are the most successful methods—the most advanced of accepted practices—in the technologies of all divisions of the textile industry: cotton—woolen—worsted—synthetic—knitting—finishing.

Let this book show you how to make the most practical and efficient use of machines you already have for rayon processing. The material is authoritative and up-to-date. Each section of the handbook was prepared by outstanding technicians and specialists in a particular branch of textile manufacture.

Let these 17 experts show you today's best methods

The 17 authors of this book are members of the staff of the Textile Research Department of the AMERICAN VISCOSE CORPORATION, employed to develop the best uses for rayon on conventional or special machines. This department is unique in that it has full-scale machinery of all types found in textile mills that use rayon. The following experts have contributed to the book:

- **Cotton Systems**
  Fletcher S. Culpepper
  Earnest H. Dreher
  Charles Wilson
- **Woolen and Worsted Systems**
  Robert A. Smith
  Robert C. Pickens
  Paul C. Beatty
- **From Yarn to Fabric**
  John S. Chaya
  Thomas J. Culpepper, Jr.
- **Fabric Construction**
  Rene Bouvet
- **Knitting**
  Richard F. Eshleman
  George A. Johnson
  Arthur N. Tingley
  Walter Boyer
- **Dyeing and Finishing**
  James A. Hopwood
  Jackson A. Woodruff
  Harry F. Creegan
  Leslie L. Walmsley

Check these chapter headings:

1. **Rayon Staple on the Cotton System**
2. **Rayon Staple on the Worsted System**
3. **Rayon Staple on the Woolen System**
4. **Rayon from Yarn to Fabric**
5. **Standard Rayon Fabric Constructions**
6. **Rayon in Knitting Mills**
7. **Rayon Dyeing and Finishing**

Packed with valuable data

Yarn preparation . . . full-fashioned hosiery . . . circular knitting . . . rayon in tricot fabrics—all are discussed in relation to processes employed where rayon is used in knitting mills. You get down-to-earth information on dyeing and finishing—fast dyeing of cellulose-acetate materials—methods of determining dye selection for viscose rayon—cake dyeing, raw stock, top, and yarn dyeing, etc. Easy-to-follow explanations spotlight accepted practices in printing of materials . . . using flame retardants . . . controlling shrinkage and crease resistance of viscose-rayon fabrics.

Just Published!

RAYON TECHNOLOGY

Handbook for Textile Mills

Prepared by the Textile Research Department of
AMERICAN VISCOSE CORPORATION
260 pages, 81 illustrations, $3.75

This book shows you how rayon can be used on equipment designed to handle natural fibers, as well as on the increasing quantity of equipment being made available for handling staple or continuous-filament rayon. Each chapter considers actual working conditions, shows how best to use your equipment, and gives you practical solutions to the specific problems that arise in using rayon staple.

Brings you specific help on:

—how to overcome web and sliver tensions in carding rayon on the cotton system
—how to overcome static on the drawing frame
—French and Bradford systems for worsted spinning
—advantages of spun-dyed staple rayon on the worsted system
—how to avoid excessive roller pressure, twist, and bobbin tension for better work in drawing and spinning
—Pacific's Tow-to-top Conversion
—5 steps in lubrication procedure when rayon content of woolen blend exceeds 70%

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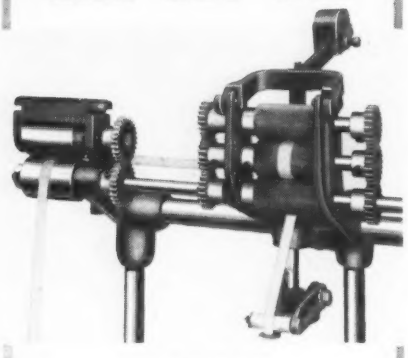

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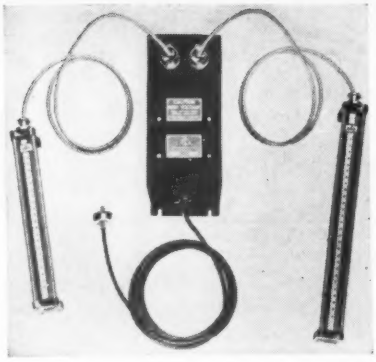
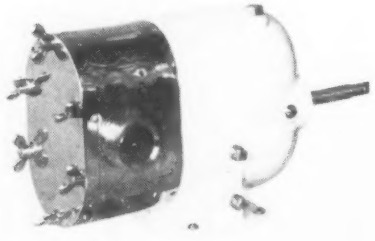


Effective static elimination at a distance of 6 in. is claimed for this equipment.

and individual windings back of each emitter are said to prevent the possibility of any shock to operating personnel but in no way reduce operating efficiency. Controlled discharge is said to be even across the bar. A third feature claimed is low operating and maintenance cost.

Stainless-Steel Pumps Resist Corrosion



A new line of sanitary stainless-steel pumps has been announced by the Waterous Co., St. Paul, Minn. Designed to eliminate all internal threads, the stainless-steel pumps are of rigid ball-bearing construction with positive tolerance control. The pumps can easily and quickly be disassembled for cleaning, as they have a minimum of removable parts.

Wide-Range, Adjustable Sheave Eliminates Freezing

A new sheave designed to provide permanent adjustability and prevent frozen adjusting mechanisms has been developed by American Pulley Co., Philadelphia, Pa.

New construction feature of the sheave is the rubber-lagged hub upon which the sheave flanges are mounted. Bonded to the steel hub of the sheave, the rubber section eliminates freezing by acting as an insulating cushion between the flanges and the hub of the sheave.

Additional advantages of the wide-range adjustable-diameter sheave are said to be quietness, balance, ease of adjustment, non-corrosive adjusting mechanism, and short over-all length.

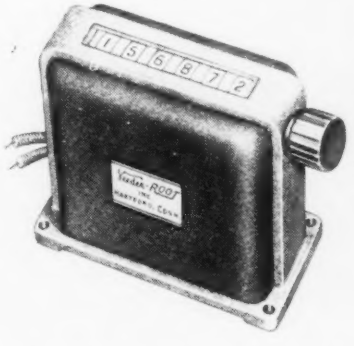
Wide-range, adjustable-diameter sheaves are made in two and three grooves with pitch diameter variation of 5.25 to 10.0 in. This wide range is said to provide four to five times the speed variation available with standard adjustable-diameter sheaves. The adjustment for speed variation is made while the drive is stationary. The sheaves are designed to utilize multiple "R" section V-belts. They will handle loads up to 15 hp.

A rubber-lagged hub is the principal advantageous feature of this new line of sheaves.

Electric or Mechanical Fast Counters Offered

Three new, high-speed, six-figure counters capable of counts up to 1,000 per min. have been announced by Veeder-Root, Inc., Hartford, Conn. An 8-watt a.c. model, actuated through electromagnets, can be connected in series with any machine or device having a contact arrangement. The 6-watt d.c. model can be connected to dry cells, storage battery, or d.c. current in series with any device having a contacting arrangement. Both electric counters operate on 105 to 115 v.

The general-purpose counter is made



Up to 1,000 counts per min. can be made by these new electric high-speed, 6-figure counters for a.c. or d.c. current.

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Lovely legs are truly an "eye full",—ever appealing to man or maid,—that's why she and thousands upon thousands of her attractive sisters say: "I fully realize that *Quality Finishing* makes good hosiery even bettter". Yes, fashion-wise women are *instinctively aware* of the sheer loveliness, crystal clearness, smoky dullness, that feeling of nothingness that hosiery finished with *DuraBeau* imparts. And too, they are ever-conscious of the "miles more wear" such hosiery gives them,—because of its added resistance to snags, runs and spotting! *DuraBeau* is truly the *"film of protection and loveliness"*

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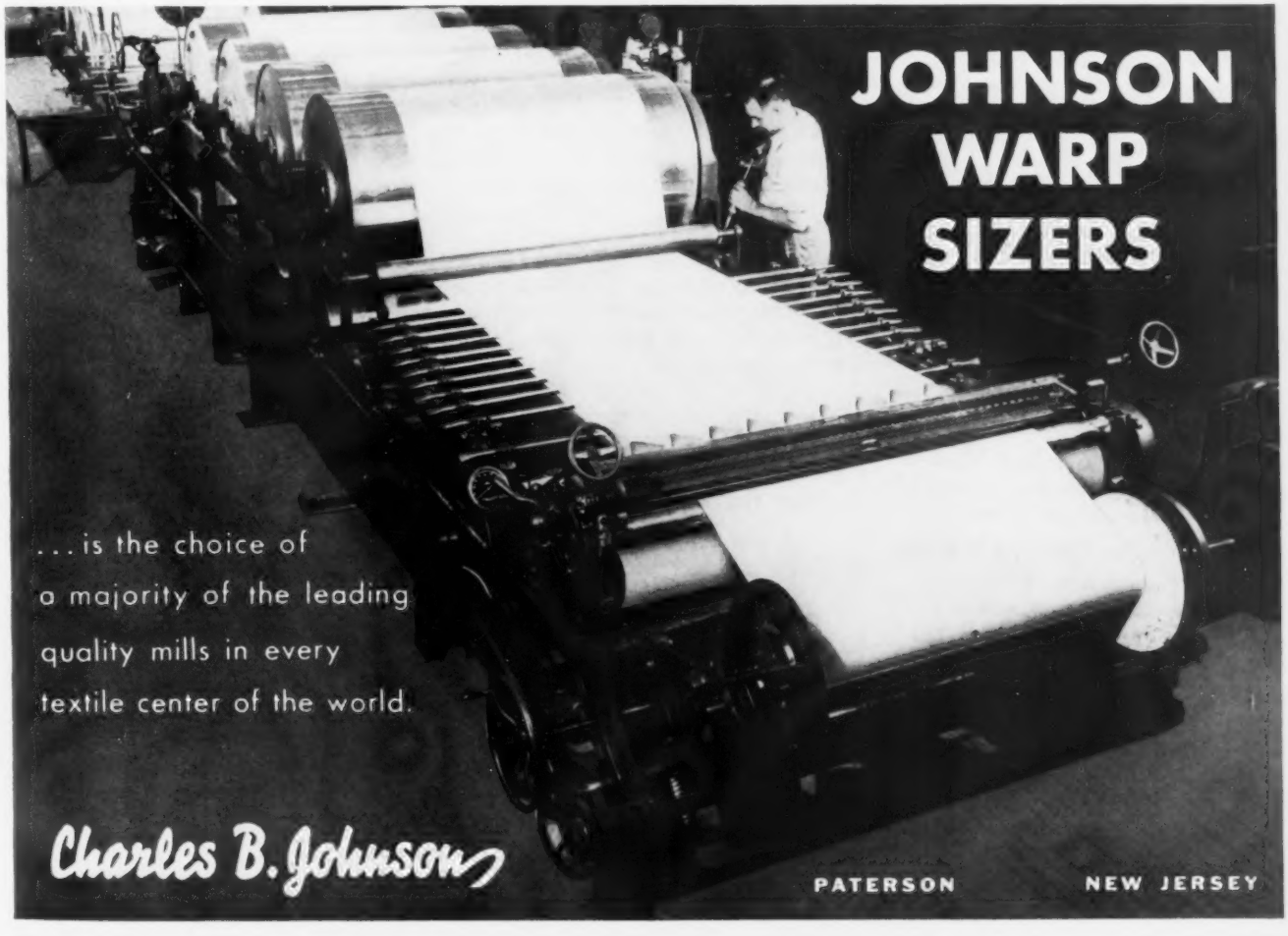

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A mechanical high-speed counter is available for four methods of counting.

for four methods of counting: ratchet, rotary ratchet, direct drive, or revolution. The counters have a 2-tone gray shrivel housing. Electric types are 2⅛ in. long, 2½ in. high, and 1⅝ in. wide. Mechanical type is 4½ in. long, 1 9/16 in. high, and 1¼ in. wide. Mechanical type can be furnished with shaft entering either end and rotating either way.

Additional Details Released On Pacific Converter

Some additional details have been released on the capacity of the Pacific tow-to-top converter to be manufactured by Warner & Swasey Co., Cleveland, Ohio. Production at 90% efficiency on units built and operated by Pacific Mills is 140 lb. per hr. of viscose top, and 100 lb. per hr. of nylon. Maximum capacity of the converter on viscose is 10 tows of 180,000 den. each—or a total of 1,800,000 den. On nylon, maximum is 1,100,000 den. One present limitation is the form in which tow is supplied. The length of the staple cut varies up to 17.5 in. with the present cutter blade. When the shogging attachment is used to produce variable-length staple, the staple length on a blade set to cut 4½-in. staple produces lengths from 2½ to 8 in.

Paper Cover Adopted For Rayon Cakes

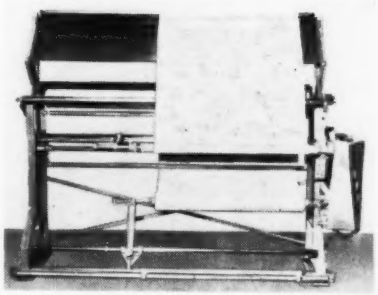
A non-returnable paper cover has been adopted by American Viscose Corp. for use on rayon yarn sold in cake form. This new cover eliminates the five-cent deposit, with all the associated handling and bookkeeping which was required with the returnable knitted covers, standard heretofore.

The new inexpensive cover has excellent permeability and high wet strength, and permits the yarn to be soaked for throwing, or dyed, then extracted and dried, in cake form with the protective cover still intact. The new paper cover is the result of a long series of tests and trial runs, extending over a period of 7 yr. The cover finally developed is a simple tube, made with a lapped seam, of a paper specially developed for strength and permeability, made to Avisco's specifications.

Mills report that the new cover is not only more convenient because of the non-returnable feature, but that it is more efficient. The special paper is actually far more permeable than the knitted cover. Weighing less, it also absorbs far less sizing and dye, making for greater economy. Experience has also indicated in some cases that in the paper cover yarn is less likely to shift in transit because there is less friction between yarn and cover. This means less waste and greater efficiency in winding and throwing.

Avisco's Roanoke, Va., plant has been shipping all of its rayon cake production in the new covers for some time. All of the Parkersburg, W. Va., production sold in cake form is expected to be shipped in paper covers by early in the fall. The other two plants shipping yarn in cakes, at Lewistown and Marcus Hook, Pa., will change over as soon thereafter as is deemed practicable.

Measuring and Inspecting Machine Has Foot Control



Speed can be controlled by foot pressure when measuring, or can be set at slow for inspecting.

A new measuring and inspecting machine featuring foot control for variable speeds is being produced by Cutting Room Appliances Corp., 45 W. 25th St., New York 10, N. Y.

The foot control permits the operator to speed up the unrolling action by foot pressure from any part of the machine. The foot control consists of a pedal across the entire width of the machine and is worked somewhat like the accelerator on an automobile. The operator presses down to increase the speed of the machine, and lets up when he decreases speed. Thus his hands are free to adjust or handle the material as it is unrolled.

For inspecting purposes, the ma-

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TO YOUR
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SPECIFICATIONS

Our flexible methods of operation assure your requirements. Tell us your needs and we will meet them promptly.

"SPECIALISTS IN ENGINEERED SERVICE"

HYDE PARK MILLS INC
Covington, Tenn.

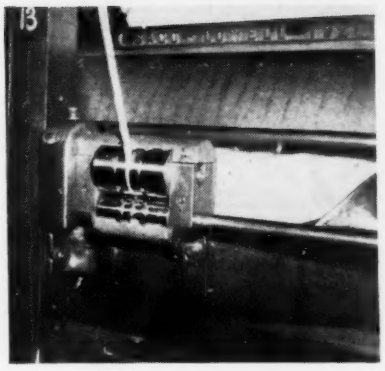
chine unrolls the goods at a slow speed, so that the operator can check for damages and stop the machine instantly to mark imperfections. A simplified forward and reverse drive on a single hand-control unit gives him fingertip control. An examining board is supplied so that the operator can scan the materials easily; and a yardage meter which counts off yardage by one eighths is situated for ready reading.

The new measuring machine will take up about 9 in. less floor space than previous machines due to a more compact rearrangement of the mechanism. It can handle all types of fabrics, heavy or light, whether on rolls or folds, and is constructed in standard widths of 48 and 60 in., to take all widths of material up to the maximum. The machine can be attached to any electrical outlet for immediate operation.

Grooved Calendar Roll Increases Can Capacity

A new grooved calendar roll for cotton, wool, and rayon cards has been developed by the Atlanta Machine Works, 100 Piedmont Ave., S.E., Atlanta, Ga., and is claimed to increase the amount of sliver which can be put in the sliver can.

The new roll is said to add up to 150% more sliver than ones employing no compression springs. Where orthodox compression methods are used, it is claimed that can capacity is substantially increased.



Size of sliver produced can be varied by different roll design and dimensions.

Condensation of sliver is regulated in accordance with the type and weight of sliver desired. This is accomplished by the new roll by the design and dimensions of the center groove, and by the weight of the top roll. The top roll is available in diameter and weight suitable for any type card. A solid steel roll has sufficient weight for the Whitin card, while a lead-core roll is used on Saco-Lowell and Pettee cards.

The top roll is full-floating and guided longitudinally by two side grooves, features which require no additional driving power. Proper compression is reached without the use of springs or other auxiliary means.

It is claimed that by the use of this type of roll and by compressing the sliver into a small cylindrical form, the fibers are straighter and more parallel and better drafting results.

New Dyes and Chemicals

Mills Report On New STARCH SOLUBILIZER

HIGHLIGHTS: *Reports on solubilizing and conditioning compound from several southern plants indicate great savings in time and material—Starch said to be ready for use in 30 min. or less—Size additives need not be used—Fabric desized in normal manner—Weaving efficiency reported equal to normal sizes.*

EXTRAORDINARY SAVINGS in time and materials are being reported from some southern mills through use of a new starch solubilizer and conditioner, Intersize, made by Intersize of America, Inc., 150 Broadway, New York, N.Y. Use of the new material is said to eliminate the need for adding any other sizing compounds as softeners, tallow, binders, activators, etc., to the starch. Tests reports from plants show that starch preparation time can be cut to as little as 8 min. As the starch and solubilizer need only to be brought to the boil to be ready for use, long cooking periods are eliminated. Savings are said to be estimated by various mills to range from $1.00 to $4.50 per kettle of size.

Only 1% of solubilizer on the

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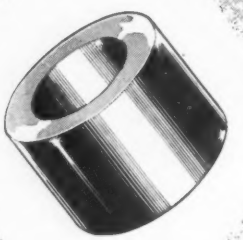

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weight of the starch need be used along with water. The solubilizer is said to be usable with any type of starch. A type of solubilizer is available for cotton, rayon, wool, or other natural and synthetic fibers. Mills report successful application to cotton yarns ranging from 15/1 carded to 60/1 combed. The solubilizer also is said to have the properties of keeping kettles and lines clean and of preventing corrosion. Desizing of fabrics sized with the solubilized starch is accomplished in the normal manner.

Weaving efficiency of warps sized with the solubilized starch, according to information from mills, is equal to or better than that of normally sized warps. Shedding at the loom is said to be reduced. Penetration into the yarn is claimed better than with normal sizes. Viscosity of the size during a 16-hr. period is nearly constant when temperatures are maintained closely.

Elongation of the yarn has been improved by use of the new compound.

According to a test with the compound reported from one mill in the Greenville, S. C., area, only 100 lb. of pearl starch and 115 gal. of water were required to produce 130 gal. of size. The mill normally uses 140 lb. of starch plus 90 gal. of water to produce 120 gal. of size. In addition, use of 7½ lb. of binder was eliminated. In a test, yarn sized with the solubilized starch had 8.55% of size; normally sized yarn had 7.95% of size.

In another mill trial, a saving in cooking time of 1 hr. 27 min. was made. Additional savings were: 16 lb. softener and 8 lb. tallow. The savings per kettle of size is estimated at $4.00. In this test, the batch of size prepared normally sized 4,000 yd. of warp. When the compound was used, the same size batch was said to have sized 5,000 yd.

Another test report for a broadcloth on 40/1 combed cotton warp purported to show savings of 12 lb. softener, 13 lb. binder, and 30 lb. corn starch. Time saved was 1 hr. 12 min. preparation; and shedding was said to be reduced about 50% while weaving efficiency was equal to conventionally sized warps.

Test runs at another southern cotton mill were claimed to have disclosed savings of 6 lb. of binder, 10 lb. of softener, 6 lb. of gum, and 3 lb. of moisture-retaining compound per kettle of size. In addition, the preparation time was 18 min. as compared to 2 hr., 15 min. Reported estimated saving per kettle were $4.50. It is also stated, based on early tests, that the number of size kettles used at this mill can be reduced from 18 to 5 because of the saving in cooking time.

In a report from another southern mill, 22/1 carded warp sized with solubilized starch is said to show excellent weaving characteristics and considerably less shedding. Savings in materials amounted to 13 lb. of binder and 5 lb. softener. A 1 hr. 9 min. time saving, as well as savings in steam and labor, were reported.

Another test run reported from a southern mill on 30/1 carded warp yarn reportedly showed a weaving efficiency equal to normally sized yarns, and slightly less shedding. Savings were stated as: time, 1 hr., 15 min.; binder, 19 lb.; softener, 5 lb.; and wax 2 lb.

Intersize is sold by the manufacturer for 78¢ per lb. which price includes the standard charge of the company for use of the patent rights in the process and product under which operations are conducted.

Scholler Announces Wool Shrink-Resistant Process

A shrink-resistant treatment for woolen and worsted knit goods and woven fabrics has been introduced by Scholler Brothers, Inc., Philadelphia, Pa. The process is known as Schollerizing.

By applying the treatment, a wet-chlorination process which will be licensed by Scholler Brothers to textile manufacturers in various categories, the tiny wool fibers are said to be sealed. This provides as near a permanent shrinkproof treatment as is possible for the life of the fabric, according to Fred Scholler, president of the firm.

Essentially, woolen and worsted yarns and cloth can be Schollerized in any stage of manufacture, and the treatment does not change or damage any previously-applied chemical nor does it affect dyes.

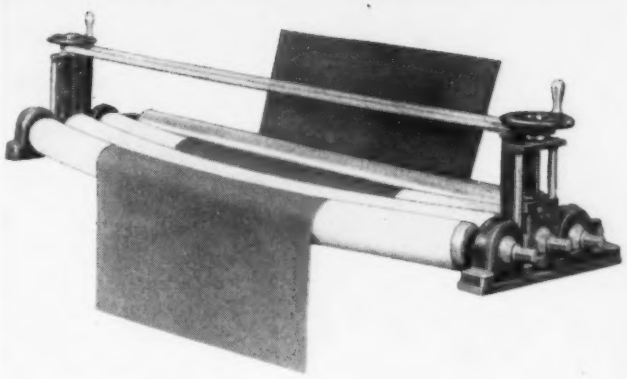
The treatment is said to completely eliminate matting of wool garments, thus permitting the retention of original knit or woven size. Also retained are the fiber's natural qualities of resiliency, elasticity, softness, texture and comfort, according to the company. This process also resists stretch as well as shrinkage.

The chemical can be used in stainless steel, monel metal, or wooden tanks, but the licensee must be certain that the tanks used are chlorine-resistant.

To illustrate the effectiveness of the "Schollerizing" process, knit goods were washed in a Bendix washer for 30 min., which was regarded as the equivalent of 30 one-minute washings. Before and after the washings, measurements were made under tension.

The measurements made after the

Mount Hope ADJUSTABLE EXPANDER



You Can CONTROL

the Widthwise Stretch of your Cloth

with this Device

This expander mounting provides a quick and easy means of adjusting the amount of widthwise stretch in your cloth from maximum to minimum. Essential on machines handling more than one grade of goods with different stretching requirements.

Shown herewith are 3 "Free-Wheeling" Expanders and 1 four inch diameter brass lead-on roll, all mounted in the same bracket—the middle expander being vertically adjustable by means of hand wheels. Additional adjustment is also possible by rotating the expander axles in ball and socket brackets. If still greater range of adjustment is required, the unit can be furnished with 5 expanders, 2 of which are vertically adjustable.

The hand wheels for vertical adjustment are connected by a roller chain enclosed in tubes, welded to the frame, to protect the chain from damage and prevent soilage of cloth.

When various grades of cloth, both easy and hard to stretch, are frequently handled, this type of expander mounting is very useful.

Bulletin E.C. on request.

MOUNT HOPE MACHINERY CO.

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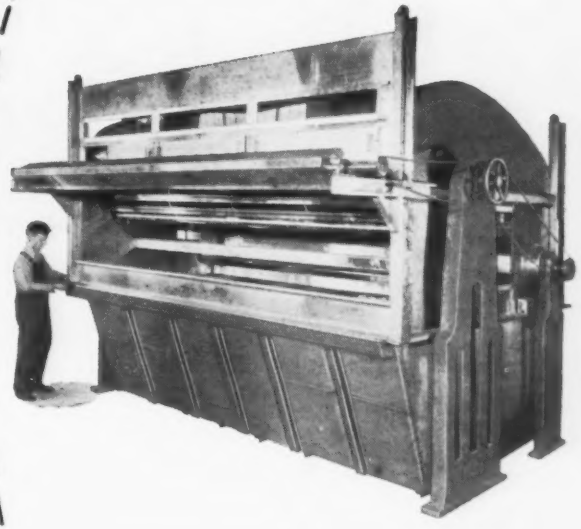
Takes *less* Time

for Loading, Heating, Lacing, Doffing, Cleaning



Gives you *More* Time ***for the actual dye runs which build your profit***

AND it pays its way handsomely by cutting water and steam costs lower than ever. Everything *YOU'VE* ever wanted in a dye box has been incorporated in

The New BLICKMAN Fully Enclosed Stainless Steel Dye Box

Send for further information

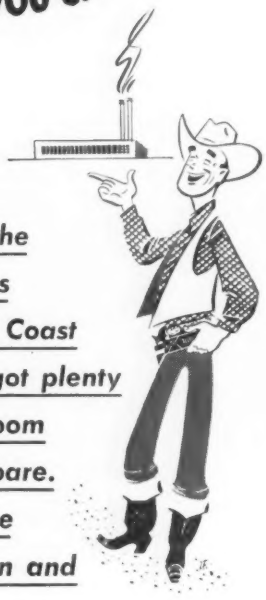
S. BLICKMAN, INC.

408 GREGORY AVENUE • WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks

Smilin' Tex says:

"IT AIN'T BRAGGIN' IF YOU CAN PROVE IT"



On the Texas Gulf Coast we got plenty of room to spare. Come down and see.

Down here in the Texas Coast Country we got plenty of room for plenty of mill sites and homes, and plenty of what we call "elbow room" for play and recreation. This last is important to a mill worker and his family.

And there are other Texas "plenties": 28% of the Nation's cotton, 21% of the wool clip, 84% of the mohair.

We got plenty of natural gas—58% of the Nation's known reserve. It's the cleanest, most economical fuel you can buy.

Plus the finest of transportation facilities—land, water and air. Friendly, intelligent "home-grown" labor; no sales tax, no State income tax.

Yes, Texas is a big State. We got plenty of room, plenty of sunshine, plenty of pure water . . . plenty of anything you need to spin and weave into the profit column.

Send for a Survey of the Texas Coast Country. On request, we will prepare for your company a carefully engineered and confidential survey of the Texas Coast Country individualized to fit your particular problem. No cost, no obligation. Address Research Department, Houston Pipe Line Company, Houston, Texas.

HOUSTON PIPE LINE CO.

Subsidiary of Houston Oil Company of Texas

GEO. A. HILL, JR., President

Wholesalers of Natural GAS

washings brought out these percentages:

Men's socks of 100% wool: 17.4% shrinkage in the untreated socks after 5 min. in the washer; 1.5% shrinkage in the Schollerized sock; untreated (30 min. in washer), 55.0% shrinkage; Schollerized, 2.1% shrinkage.

Schollerized wool treated in the skein registered no shrinkage, while the untreated wool shrank 25.5%.

Wool which has been Schollerized is not affected by rubbing or tubbing. The manufacturer of this chemical also asserts that fast colors will stay brighter and the whole garment will retain its new-like appearance for the life of the fabric, if the Scholler treatment is used.

Tests of piece goods brought forth this data:

Five-minute test of untreated fabric: in warp, 4.2% shrinkage; in filling, 3.7% shrinkage; both felted.

Piece goods which were Schollerized developed only 5.4% shrinkage in the warp and 0.0% in the filling, and there was no interlocking of the filling with the warp.

Untreated piece goods given a 30-min. washing shrank 18.1% in the warp and 18.0% in the filling. There was a shrinkage of only 2.8% in the warp and 0.6% in the filling of Schollerized fabrics.

This new treatment will be licensed to processors by Scholler Brothers, and strict quality controls will be maintained by the textile chemical firm.

Optical Bleach Applied As Dye

A new line of optical bleaches for use in the textile industry has been announced by DePaul Chemical Co., Inc., 44-27 Purvis St., Long Island City, N. Y. These compounds are substantive to textile fibers and exert a marked whitening effect upon them.

Chemo-Bleach P and Chemo-Bleach PG have been developed for use on vegetable fibers and nylon. Chemo-Bleach W, when used together with Chemo-Bleach W Assist, gives a striking whitening effect on wool, eliminating the need for a bleaching operation.

These optical bleaches are applied to the cloth as dyes and have already met with considerable success in the textile industry. Full-scale production of these compounds has begun.

Thickeners for Printing Have Improved Properties

A new series of thickeners for textile printing, the Colloresine V brands, which are water-soluble cellulose derivatives differing from one another in the degrees of viscosity produced in aqueous solutions, have been announced by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

The new Colloresines are said to offer several distinct advantages:

They are readily soluble in hot or cold water.

They do not coagulate in heating.

They are stable in the presence of alkalies and in hard water.

Colloresine V thickeners produce prints with sharp outlines and a soft hand. In addition, the gum is said to wash out easily with cold or warm water. This eliminates the necessity of rope soaping.

Colloresine HV when used for printing Rapidogens or Algosols and left on the fiber (omitting rinsing) does not interfere with the shrinkage of the cotton fiber when passing through a caustic soda bath of mercerizing concentration, or when overprinting with caustic soda. This is important in simplifying the production of seersucker prints.

High viscosity coincidental with low solid content in the finished print paste and much less tackiness are additional features of Colloresine HV of special interest when printing flannel and other napped cotton fabrics.

Colloresine MV and especially Colloresine HV, being less tacky than starch paste, are more easily scooped off the engraving.

Colloresine V solutions do not lose viscosity on standing for several weeks, according to the manufacturers, except when exposed to high temperature (160° F. or higher) for a considerable time, when there is some loss of viscosity.

The fact that Colloresine V is compatible with other printing carriers and with water-soluble urea and melamine resins increases the usefulness of the products.

Since a number of multivalent metallic ions precipitate them, Colloresine V brands are not recommended for the following dyestuff groups:

Basic colors
Mordant colors
Palatine fast colors

This does not imply that a few types of these color classes cannot be applied. However, as a group, the above three dyestuff classes should not be mixed with Colloresine V brands. For these colors, Colloresine DKN (methyl cellulose) is recommended.

The present manufacture is not suitable for some vat colors. Furthermore, Diphenyl Black base precipitates Colloresine gums. On the other hand, aniline black printed according to the prussiate method develops very well when thickened with Colloresine HV gum.

LUREX*

the NEW LUXURY METALLIC YARN

- **ABSOLUTELY NON-TARNISHABLE**—retains brilliance forever when instructions are properly followed.
- **ODORLESS**—no unpleasant metal or tarnish odors can occur.
- **EASY TO LAUNDER AND DRYCLEAN**—by the same methods used for rayon.
- **SOFT AND PLIABLE**—in finished fabric Lurex has good hand—is not harsh or abrasive.
- **LIGHT IN WEIGHT**—provides metal luxury look without customary weight.

These glamorous gold, silver and copper yarns can be used and sold with confidence. Lurex overcomes all of the limitations that formerly restricted the use of metal in *wide loom* fabrics.

Designers can now add to their color palettes the ageless rich tones of metal to create appealing and practical fabrics.

Lurex is available to qualified mills by itself and in a wide variety of core yarns and twists. It can be woven or knitted with all natural and synthetic fibres.

INSTRUCTION TAGS

Assure customers that your fabrics contain non-tarnishable and launderable Lurex. Ask for identification and instruction tags for use by end product manufacturers.

*Reg. U. S. Pat. Off.

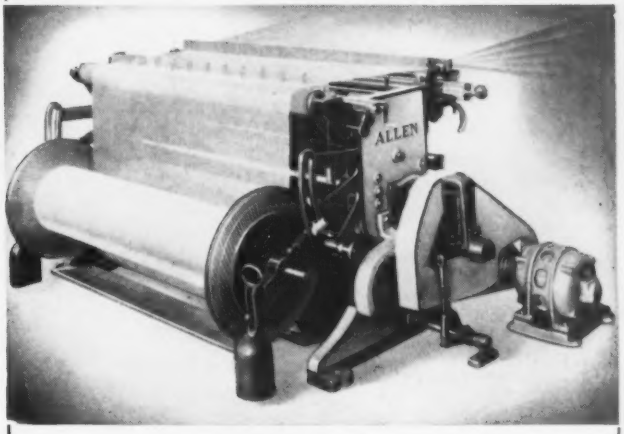
LUREX

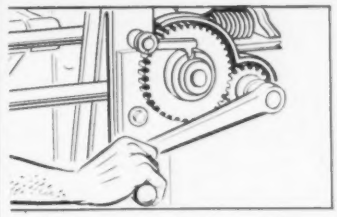
The Metallic Yarn That Never Tarnishes

For further information write
The Dobeckmun Company, Yarn Division, Cleveland 1, Ohio.
New York Office and Show Room 250 West 57th Street.

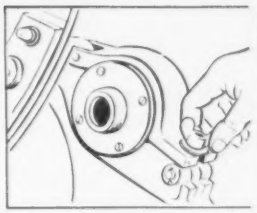
ALLEN High Speed Rayon Warper MODEL "R"

See how it doffs in 30 seconds





A few turns of beam doffer crank depresses ball bearing beam arm and lowers beam to floor.



Releasing wing nut frees beam by permitting ball bearing to slip off shaft ends.

1. Speeds up to 350 yards per minute.
2. Electric stop motion.
3. Beam doffing device.
4. Adaptable for use with any make Cone Creel.
5. All adjustments made on outside of warper.
6. Predetermined Veeder-Root Yardage Counter and Measuring Roll.
7. Expansion Combs made with hard chromium-plated dents.
8. Vibrator Motion for ends at Back Comb, to eliminate wearing of dents.
9. Efficient braking devise.
10. End and End Leasing Devise if desired.
11. Motor and V-Belt Drive.
12. Silent Chain and Sprockets in place of gears.
13. Ball bearings throughout.
14. Bearings equipped with Alemite fittings.

"Good Warps are made on Good Beams"

XXRXRHT Rayon Warper for warping viscose rayon yarn of 50-1100 denier, specially reinforced for this work. HC Warper Beams for acetate and Nylon. Extra heavy reinforcements to stand pressure of these yarns.

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Cotton and Rayon Beam Warpers

Ball Warping Machines

Narrow Fabric Warpers

Intermediate Dresser Stand for Woolen and Worsted Warp Yarns

Expansion Neck Reeds

All types of Expansion, Warper, Beamer and Slasher Combs

Replacement parts for Saco-Lowell and Entwistle Warpers

★

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Books of Interest

A Practical Color Manual

PRACTICAL COLOR SIMPLIFIED, by William J. Miskella; Publishing Div. of Miskella Infra-Red Co., E. 73rd and Grand Ave., Cleveland 4, Ohio; 114 pages, $5.00.

The purpose of this book is to present all the general and necessary information on color choosing, color mixing, color matching, and color harmonizing for the various trades which work with color. The data has closer connection with painted and applied color than with color dyeing in a textile finishing plant, but the principles of color composition are equally applicable by the textile designer as by the interior decorator. The book is a reissue of a manual originally published in 1928. It has, however, many new sections—in particular new information on colored lighting of application to theaters, for show-window trimmers, and for interior decorators. Also new are chapters on color designation for industrial piping, for plant surfaces, for electrical wiring, etc.; and on fluorescent lighting.

Quality Control Simplified

QUALITY CONTROL., by Norbert L. Enrick; The Industrial Press, 148 Lafayette St., New York 13, N. Y.; 122 pages, $3.00.

The practical man, who does not want to tangle with higher mathematics, will find that this book explains statistical quality control in generally understandable terms. The author has felt that, despite the increasing use of statistical quality control, there are still many plants which have not taken advantage of the benefits of this system largely because of the apparent need for a highly trained specialist. In this exposition of the subject, all unnecessary refinements and formulas have been omitted, and elementary arithmetic and common sense are the only prerequisites. Two chapters devoted to mathematical phases of quality control have been supplied, but may be skipped.

The procedures for installing lot-by-lot inspection are given, as well as tips on sampling continuous products. Major and minor defects are considered and elements in setting up figures for allowable percent defective are given. Control charts, with upper and lower control limits, are illustrated and explained. A related pair of typical reports to top management give the recommendation for installation of a quality-control system and a review of its results after two months' operation. These two documents dramatize the arguments for the system and the benefits to be derived from its use. The bulk of the examples cited in this work are from metal working plants, but the principles are applicable to textiles. The author was a member of the Headquarters Quality Control Staff of the Army Quartermaster General's Inspection Service during the war and had experience in various industries.

Survey of Ginning Practices

COST AND QUALITY OF COTTON GINNING SERVICES, N. C. Coastal Plain Area, Season 1946-47, by John E. Ross, Jr., and Zolon M. Looney; U. S. Dept. of Agriculture, Production & Marketing Administration, Cotton Branch, Washington, D. C.; 42 pages.

This survey of the ginning industry was undertaken to determine the factors affecting quality and the comparative costs of various size gins using varying amounts of cleaning equipment. Much interesting data is presented. Moisture content of the cotton was found to be among the top factors affecting final grade. Cost of ginning at standard gins averaged $7.46 per bale, and $10.45 for substandard gins. Capacity of a 3-stand gin was placed at 1,500 bales for the 3- to 4-month season. Gin-saw speeds of 600 to 700 rpm. were recommended.

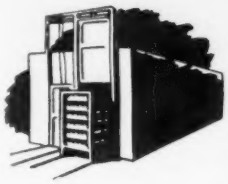
Other Books of Interest

APPRENTICE TRAINING PROGRAM (48 pages, illustrated); Textile Machine Works, Reading, Pa.

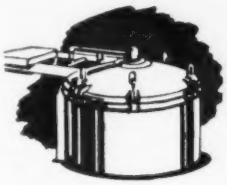
WEST COAST DIRECTORY of Apparel Manufacturers, Retailers, and Textile Representatives (308 pages, $3.75); Textile Association of Los Angeles, 111 W. 7th St., Los Angeles 14, Calif.

FUNDAMENTALS OF PATENT TECHNOLOGY, by Weil, Lane, Newton, and Semmes (36 pages, Circular No. 20); Georgia School of Technology, State Engineering Experiment Station, Atlanta, Ga.

Money-Saving Maintenance Cleaning for the Textile Industry



CLEANING DYE VATS OR KETTLES . . . Before changing colors, remove dye and scum accumulations on sides and bottom of dyeing equipment this fast Oakite way: Make up solution of Oakite Composition No. 20 at 2 oz. per gallon water and apply through the Oakite Solution-Lifting Steam Gun. Effective combination of detergency, heat and mechanical force saves time and money.



CLEANING HEATER COILS IN DRYERS . . . Oakite steam-detergent cleaning also cuts costs when the job involves the removal of accumulations that build up on fins and coils of raw-stock or finished-goods drying equipment. Ask the Oakite Technical Service Representative near you to recommend the Oakite detergent designed to provide the fastest cleaning action for your job.

GRINDING CALENDER ROLLS . . . Machine shops in textile mills are using Oakite Soluble Oil to improve wheel operation in grinding rolls. The Oakite grinding emulsion provides excellent cooling and lubricating action . . . keeps wheels free cutting . . . helps prevent loading and glazing. FREE copy of booklet on Oakite coolant emulsions available.

WRITE FOR DIGEST OF "66" CLEANING TIPS!

16-page Oakite Digest of Maintenance Cleaning for Textile Mills contains a total of 66 money-saving procedures you can install in your mill. Send for this valuable cleaning guide. Mailed immediately on request, without cost. Write today!

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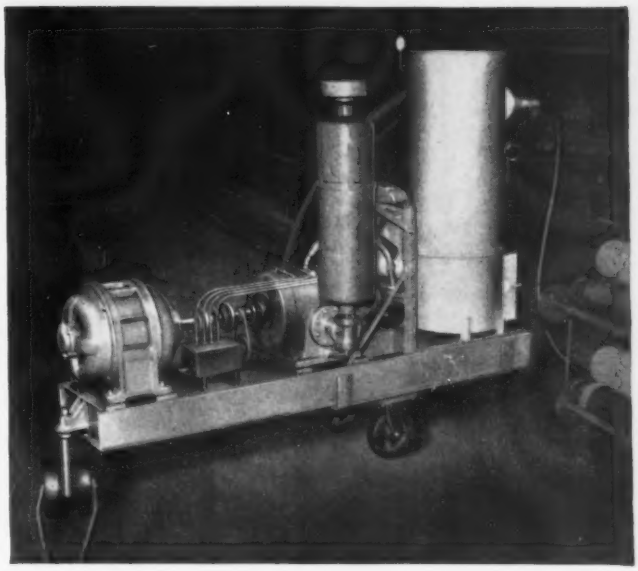
Specialized Industrial Cleaning
MATERIALS • METHODS • SERVICE

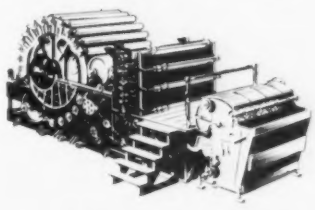
The Portable Stripper

that can handle an entire card room



This is the proven performance of The New England Machine Works' Portable Vacuum Card Stripper, capable of servicing up to 15 sets of cards. Mounted on a narrow welded steel dolly, this rugged self-contained unit, consisting of motor, vacuum pump, collector tank and several lengths of easy-to-handle flexible metal hose, can be moved easily and quickly to any desired position . . . Use it where it is needed, when it is needed to save *time, space, power.* Also serves as a handy utility cleaning unit. Minimum maintenance required. Write for further details.

FOR WOOL — WORSTED — COTTON



Send for Bulletin on FAIN Single Cylinder Card.

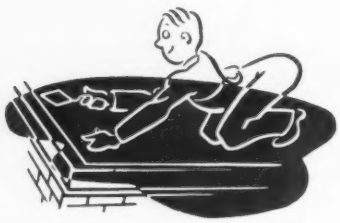
New England MACHINE WORKS

BUILDERS OF TEXTILE MACHINERY

574 E. MAIN ST., WATERBURY, CONN., U.S.A.

• STOP
• ROOF
• LEAKS
• INSTANTLY
• SIMPLY

with STONHARD ROOF RESURFACER



● **Any handy man can do a perfect job—no special equipment needed, either a brush or a trowel can be used. No heating or complicated preparations of material . . . . just trowel it over the old surface.**

● **STONHARD Roof Resurfacer can be applied even while roof is wet! It will not run, check, peel, or crack under hot summer sun or severe winter weather. Yes . . . it can be applied to *any* roof—tin, iron, concrete, slag, gravel, tar paper or felt.**

● **BEFORE you undertake ripping off and relaying an expensive new roof—INVESTIGATE STONHARD Roof Resurfacer. Send for complete information on How To Stop Leaks Instantly—no obligation.**

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News of the month

Textile Hall Elects. At the annual meeting of the board of directors of Textile Hall Corp. at Greenville, S. C., June 30, the following were elected members for the ensuing fiscal year: Thurmond Chatham, Elkin, N. C.; Donald Comer, Birmingham, Ala.; Herman Cone, Greensboro, N. C.; R. I. Dalton and B. B. Gossett, Charlotte, N. C.; George H. Lanier, West Point, Ga.; H. A. Ligon, Spartanburg, S. C.; J. Spencer Love, Greensboro, N. C.; W. S. Montgomery, Spartanburg, S. C.; George M. Wright, Abbeville, S. C.; W. H. Beattie, Sydney Bruce, W. W. Carter, C. E. Hatch, Edwin Howard, Ernest Patton, Alan B. Sibley, W. G. Sirrine, F. W. Symmes, and Harold R. Turner, all of Greenville. W. G. Sirrine was elected president and treasurer, Alan B. Sibley, vice president, and Miss Bertha M. Green, secretary. Plans for the 15th Southern Textile Exposition, Oct. 4 to 9, are completed. All the space has been sold to more than 200 exhibitors. A wide variety of machinery, equipment, and materials used in the textile industry will be shown and demonstrated.

NACM Meets. The annual meeting of National Association of Cotton Manufacturers will be held at the Marshall House, York Harbor, Maine, Sept. 16 and 17, 1948. Business meeting and dinner will be held on the first day and recreational features the second day.

Fundamental Research on Wool. A four-year program of fundamental research into the physical and chemical characteristics of wool has been sponsored jointly by the American Wool Council, the International Wool Secretariat, and the Textile Research Institute. The program, costing $75,000 annually, was described before a meeting of wool manufacturing members of the Textile Research Institute by Dr. J. H. Dillon, the institute's director of research, at Princeton, N. J. The research studies at the laboratories in Princeton propose to examine the basic physical and chemical properties and morphology of wool fibers of various types and grades and to determine the relationship of these fundamental fiber characteristics to spinning quality, yarn character, and the properties of fabrics produced from them. All results of the research will be published. Need for such a program is accented by the world scarcity of fine-grade wools. World consumption is up 10 to 15%, while production of the finer grades throughout the world has declined 40%.

Adopts "Estron." Tennessee Eastman Corp., Kingsport, Tenn., has announced that, in accordance with the revised terminology recommended by Committee D-13 of ASTM, it will employ the generic word "estron" to designate its cellulose ester yarn and staple. James C. White, president of the company, said "Under the defini-

Textile Calendar

Southern Garment Manufacturers Association meeting, Fort Worth, Tex., Aug. 30 to Sept. 1, 1948.

American Instrument Fair, Convention Hall, Philadelphia, Sept. 13 to 17, 1948.

NACM, annual meeting, Marshall House, York Harbor, Me., Sept. 16, 17, 1948.

All-Canadian Textile Seminar, Queens University, Kingston, Ontario, Sept. 17 and 18, 1948.

Southern Hosiery Manufacturers Association, annual meeting, Sheraton Bon Air Hotel, Augusta, Ga., Sept. 24 and 25, 1948.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 9, 1948.

New England Materials Handling Exposition, Mechanics Hall, Boston, Mass., Oct. 5 to 7, 1948.

National Cotton Council's 1948 Beltwide Cotton Mechanization Conference, Lubbock, Texas, Oct. 14 to 16, 1948.

Committee D-13 of ASTM, Washington, D. C., Oct. 20, 21, and 22, 1948.

AATCC, annual convention, Augusta, Ga., Oct. 21 to 23, 1948.

Cotton-Textile Institute, annual meeting, Waldorf-Astoria, New York, N. Y., Nov. 11, 1948.

Textile Research Institute, annual meeting, New York, Nov. 18 and 19, 1948.

18th National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, N. Y., Nov. 29 to Dec. 4, 1948.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949. ASTM committee week and spring Meeting, Chicago, Feb. 27 to Mar. 4, 1949.

National Cotton Council, 11th annual meeting, Los Angeles, Calif., Mar. 7 to 9, 1949.

American Cotton Manufacturers Association, annual meeting, Palm Beach, Fla., Mar. 31, Apr. 1 and 2, 1949.

Knitting Arts Exhibition, Atlantic City, N. J., April 25 to 29, 1949.

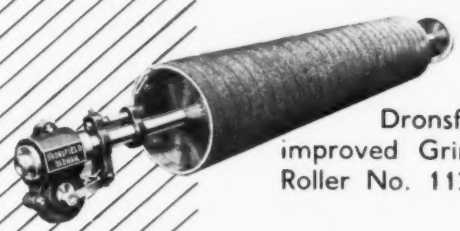
National Association of Textile Machinery Manufacturers, equipment and supply show, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

CARD GRINDING WITH ABSOLUTE ACCURACY

DRONSFIELD'S PATENT MOTOR-DRIVEN FLAT GRINDING MACHINE No. 207.

Designed for grinding revolving flats—four simultaneously—dismounted from the cards. Absolute precision in setting is the aim.

Dronsfield's Patent - Traverse Wheel Grinder, No. 120.



Dronsfield's improved Grinding Roller No. 112.

Made by

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ALL ENQUIRIES TO:-
JOHN HETHERINGTON & SONS. INC.
12 LINCOLN STREET, BOSTON, MASS.
TRADE MARKS:
"ATLAS" AND "DRONSFIELD'S"

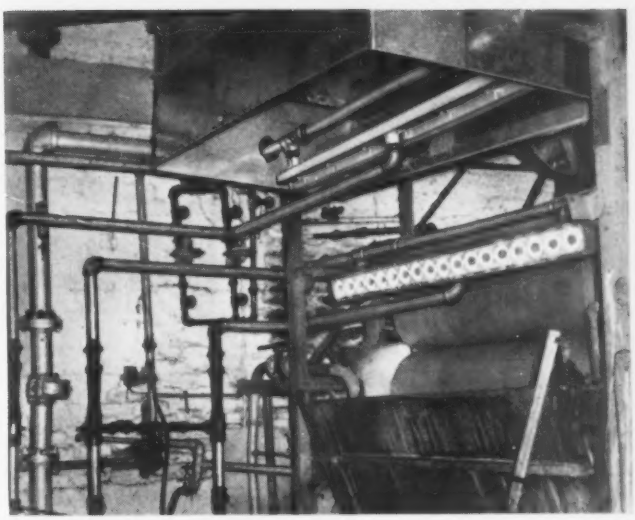
KERR BLEACHING, TOO,

Increases Singeing Production

and Lowers Costs

with

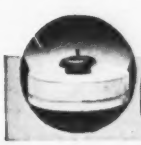
BURDETT
(RADIANT HEAT)
GAS SYSTEMS



Another leader in the Textile Industry — Kerr Bleaching & Finishing Co., Concord, North Carolina — has turned to *Burdett Radiant Heat Systems* for increased production and lowered operating costs. On this highly efficient singeing job, (gasing operation), Burdett functions at a considerably lower fuel cost than previous equipment. No water cooling is required. Burner port clogging has been eliminated. There are never any scorch streaks or unsinged spots. The cost of burner installation was much lower than that of conventional type compression burners. The Burdett System has a turndown sufficient to handle both light and heavy weight yardage.

High temperatures, deeper penetration, high efficiency, and low heat loss . . . these are the key features of Burdett Radiant Heat. Safe and easy to control, Burdett Systems will step up your drying, curing and singeing operations from 30% to 50%.

LEARN — how you can benefit with Radiant Heat — Send your specifications for Burdett's Engineered Recommendations.



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INFRA-RED GAS BURNERS

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• ACCURATE
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★ Triple Pick Counters
★ Rachet Counters
★ Rotary Counters
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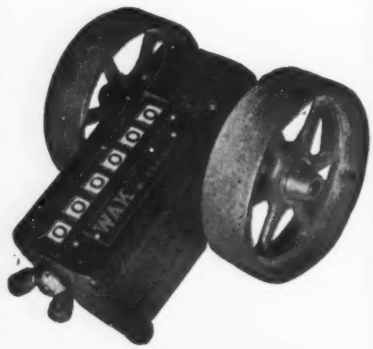
★ Yardage Counters
★ Folding Machine Counters
★ Hank Clocks
★ Special Counters



*T. M. REG. U. S. PAT. OFFICE

WAK
INDUSTRIES
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tions approved by D-13, the word 'rayon' is confined to man-made fibers composed of regenerated cellulose, such as those produced by the viscose process. For the cellulose ester fibers, such as cellulose acetate, the ASTM committee proposes the adoption of the new generic name 'estron.' Tennessee Eastman is wholly in accord with the ASTM recommendation that these two major types of man-made fibers bear different names, and believes that the specific terminology recommended by ASTM should be put into practice." The Federal Trade Commission's trade-practice rules do not at present permit any change from the practice of calling the two fibers "rayon."

Army Needs Are Large. The Army Quartermaster has asked for bids on textiles for delivery October, 1948, to December, 1949, as follows: 30,000,000 yd. 36-in., 8.2-oz. cotton uniform twill; 5,000,000 yd. 56-in., 18-oz. wool serge; 5,500,000 sq. yd. 35-in., 4 oz. cotton poplin; 4,100,000 yd. 36-in., 8.5-oz. cotton herringbone twill; 5,000,000 pr. O.D. wool cushion-sole socks; 4,000,000 pr. tan cotton socks, nylon reinforced.

Money for PTI. The Philadelphia Textile Institute Foundation is promoting a continuing campaign to raise money to improve the school's facilities. Charles W. Carvin is national chairman of the development fund. Construction of the new building on the 12½-acre property at School Lane and Henry Ave., Germantown, starts this month, and the institute plans to operate the new facilities for the fall term of 1949. Immediate needs involve about $750,000 to be sought in 1948, which with $1,000,000 already collected will provide the complete school unit of laboratories, classrooms, machinery, and equipment. Later needs of $1,389,910 will be sought in 1949 and 1950 to provide dormitory facilities, an auditorium and gymnasium building, and an endowment fund for maintenance and for present and later staff requirements.

Cotton Research at ITT. The Institute of Textile Technology has just signed contracts with agencies of the Federal Government calling for further work on two research projects. One, signed with the Office of Naval Research, Washington, D. C., calls for a study of changes in cellulose fibers when attacked by various fungi. The second, signed under the Research & Marketing Act, involves a study of cotton-textile soiling with improvement in resistance in view. This project is being carried forward for the Bureau of Agricultural & Industrial Research, Dept. of Agriculture, Washington, D. C.

Japan May Need More Cotton. Boost in United States raw cotton sales to Japan is expected to result from current Tokyo trade talks between Interallied Headquarters and British Commonwealth countries. Last year, Britain bought 64,000,000 yd. of Japanese gray cotton cloth for $14,500,000 (U. S. dollars). Now, Britain will buy 100,000,000 yd. and pay in sterling, although SCAP still pays dollars for United States cotton used in Japanese cloth. Japanese officials hope to use Britain's sterling to expand trade with the sterling area that was an important prewar supplier of raw materials for Japanese industry.

Seek FTC Wool-Shrinkage Rules. Plans are afoot for an industry-wide meeting before the Federal Trade Commission this month to consider adoption of Fair Trade Rules for the promotion and sale of shrink-resistant compounds for wool goods, and for fabrics and end-use products treated with these compounds. At a limited preliminary meeting, it was decided to promulgate rules and regulations, at least of a temporary character, prior to the beginning of the fall and winter retail selling seasons.

Army Wants Shrink-Resistant Wool Flannel. Tentative plans are being formulated by the Office of the Quartermaster General for the specification of a shrink-resistant, wool-shirting fabric for the Army. Tentative draft of a specification for a 10½-oz. shrink-resistant wool shirting flannel has been made. It will be all-wool instead of the recent 80/20 wool-cotton blend. Details of the laundry test on four 24-in. squares of the fabric have been established.

Fabric Donation for Needy Countries. Through the gifts of wool and cotton manufacturers in America, approximately 1,500,000 yd. of fabric have gone abroad to be made into needed garments for more than 117,000 persons and to bring a message of goodwill from Americans. The American Friends Service Committee, Philadelphia, has shipped 575,000 lb. of textiles with a value of $530,000 to Austria, Finland, France, Germany, Hungary, India, Japan, Poland, and China. Most of this material was made up into garments by workers abroad. The campaign is a continuing one and the

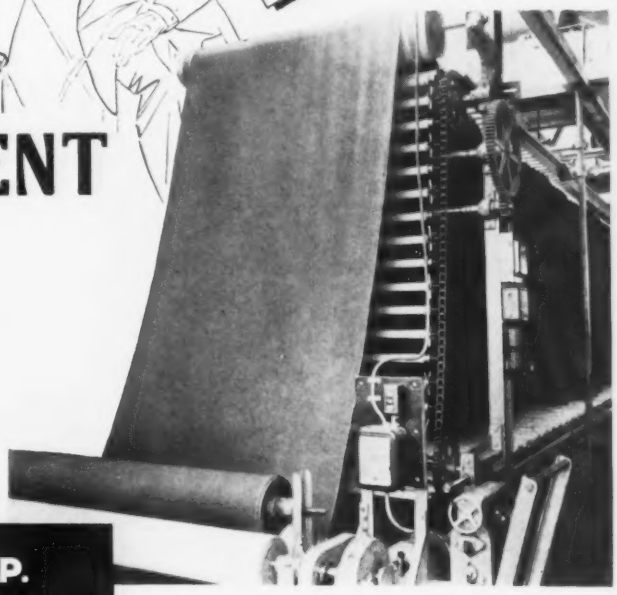
Part of the picture
of famous products

To insure utmost accuracy in drying and shrinking, Hickey-Freeman utilizes the modern

WALDRON Cloth Shrinking EQUIPMENT

An important part of the WALDRON apparatus used for processing these famous suiting materials is the revolving stick-type automatic festooner illustrated. By this method of handling after wetting absolute uniformity in the drying and shrinking is assured. The revolving sticks eliminate any possibility of stick marks remaining on the finished fabric.

Other WALDRON machines for textile processing include: Coating, Saturating and Printing Machines; Unrolls, Winders, Automatic Guides. Consult us on your requirements.



Winding up end of cloth shrinking unit showing WALDRON Festooner.

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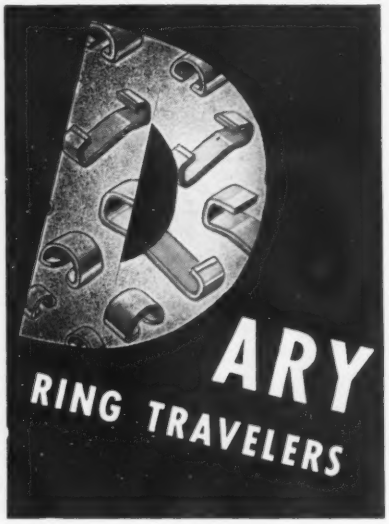

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major textile-industry associations are helping to maintain and increase the flow of fabric donated by mills.

Buying Into Worth St. A number of outstanding textile selling agencies have been purchasing their previously rented New York office locations in the last few weeks. Among those taking this action are Southeastern Cottons, Inc., 58-60 Worth St. through to 35-37 Thomas St.; Reeves Bros., 54-60 Worth St. and 221 Church St.; Cannon Mills, 68-76 Worth St. through to 19-29 Thomas St. Charles F. Noyes, who recently bought from the New York Hospital the three blocks bounded by Broadway, Worth St., Church St., and Duane St. which the hospital had held since 1772, was the seller in each case.

No Textile Renegotiation. Renegotiation provisions under Section 3, Supplemental National Defense Appropriation Act, 1948, Public Law 547, apply primarily to Air Force purchase of aircraft and related items; Corps of Engineers procurement for barracks and quarters; Department of the Navy purchase of aircraft and related items. Col. L. O. Grice, commanding N. Y. Quartermaster Purchasing Officer states, "Commodities normally purchased by the NYQMPO—woolens, worsteds, cottons, rayons, clothing and others—do not fall within the renegotiation provisions."

Fiber from Seed Flax Straw. Development of flax fiber as a crop from seed-flax straw in addition to the flax-seed crop has been the purpose of the University of Minnesota's intensive research to perfect the continuous mechanical-chemical method of fiber extraction which has been developed at the Minnesota Institute of Research. A hand-woven linen crash made of fiber so produced has been shown to compare favorably with a similar commercially manufactured linen crash. Other yarns made by the Minnesota method have ranged from the finer to the coarser numbers, and fabrics made therefrom are said to have bleached to a satisfactory white. Critical studies of fabrics and yarns made of this Minnesota fiber, coupled with actual wear tests, will be made to demonstrate the usefulness and economic worth of this product.

Drops Quarter-Yard as Carpet Measure. A trade term, almost as old as the carpet industry itself, has been dropped by Mohawk Carpet Mills, Inc. Use of the number of quarters of a yard to describe width of rugs and carpeting is to be discontinued in all references to Mohawk merchandise. Widths will be specified in feet and inches. "Three-quarter" carpet thereby becomes 27-in. carpet; "eight-quarter" carpet is called 6-ft. carpet; other widths accordingly.

History of Towels. Dundee Mills, Griffin, Ga., has published an illustrated booklet on the "Romance of the Towel," which traces the history of the terry weave back to the Stone Age. The 32-page booklet describes the process and gives a history of the Dundee organization and its pioneering since 1888 when Kincaid Mfg. Co., predecessor of Georgia-Kincaid, now Dundee Mills, was organized and started operations.

Cotton Export Program Continued. U. S. Department of Agriculture is continuing the cotton-export program. Current export subsidy rate of 10¢ per bale also will remain in effect with respect to notices of sale received by the New Orleans office of the Production & Marketing Administration after June 30, 1948. Cotton registered for sale under the program must be shipped prior to Jan. 1, 1949. The export differential remained at 4¢ per lb., gross unpatched weight, from the time the program was announced in 1944 until Feb. 13, 1947, when it was reduced to 2¢. The differential was reduced to ½¢ on May 8, 1947, further reduced to ¾¢ on Mar. 3, 1948, and still further reduced to 10¢ per bale on June 23, 1948.

For Textile Machinery. MILAN, Italy (*McGraw-Hill World News*)—The Cantieri Navali del Tirreno, of Genoa, one of the oldest Italian shipbuilding firms, has begun manufacture of textile machinery in Italy. The manager of this company plans to visit U.S.A. in September to contact cotton and rayon loom manufacturers to obtain licenses to manufacture such looms in Italy.

To Cut Census Reports. Serious curtailment of statistical services of importance to the entire textile industry are likely to result from heavy cuts in fiscal-1949 appropriations for the Industry Div. of Bureau of Census. Tentative plans call for reduction in coverage and frequency of all textile-fabric surveys and all apparel surveys, with the exception of men's and women's outerwear, to an annual basis. Many of these currently are conducted monthly and quarterly.

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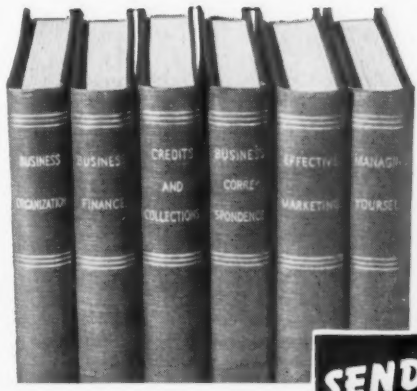

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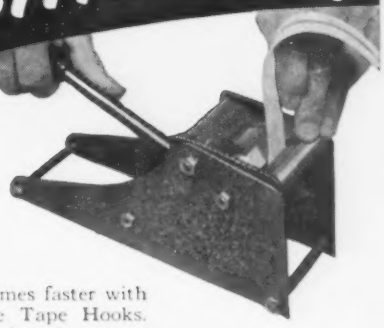
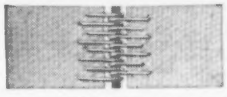


SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

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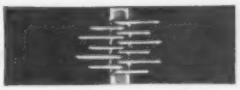
Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



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BELT LACING EQUIPMENT

UL RECOGNITION SERVICE UNDERWRITERS' LABORATORIES, INC.

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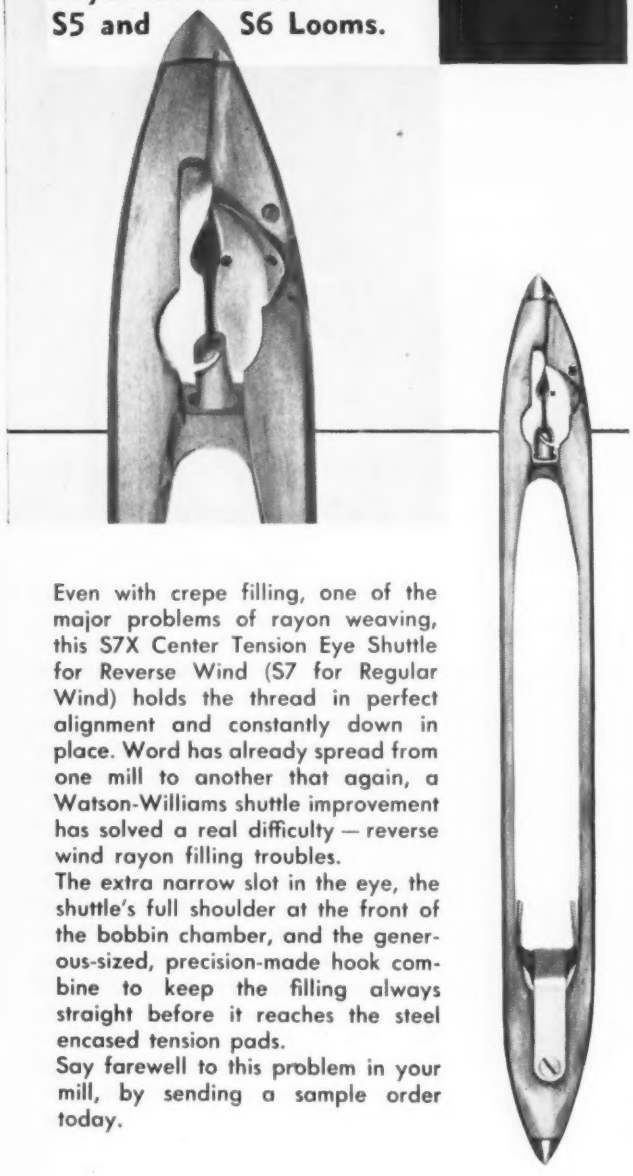
REVERSE WIND FILLING TROUBLES

with this Watson-Williams Rayon Shuttle for S5 and S6 Looms.



Even with crepe filling, one of the major problems of rayon weaving, this S7X Center Tension Eye Shuttle for Reverse Wind (S7 for Regular Wind) holds the thread in perfect alignment and constantly down in place. Word has already spread from one mill to another that again, a Watson-Williams shuttle improvement has solved a real difficulty — reverse wind rayon filling troubles.

The extra narrow slot in the eye, the shuttle's full shoulder at the front of the bobbin chamber, and the generous-sized, precision-made hook combine to keep the filling always straight before it reaches the steel encased tension pads.

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WESTERN REPRESENTATIVE: Arthur J. Bahan, P.O. Box 245, La Porte, Indiana.

NORTHERN REPRESENTATIVE: Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

NEWS ABOUT *Suppliers*

Fayolle-Ancet & Co., Villeurbanne, France, maker of the new circular loom lately described in these columns, has erected one of its machines at the plant of Hafner Associates, Long Island City, N. Y., where it is being demonstrated.

Robaczynski Machine Corp., Brooklyn, N. Y., has appointed Erick-Gross Corp., Bergenfield, N. J., as the sole selling agent for the United States and Canada for its latest type, high-speed tricot and raschel machines. Erick Gross, company president, was instrumental prior to the last war in the introduction of high-speed tricot machines into this country. His sons, Charles and Raymond, are associated with him.

Rodney Hunt Machine Co., Orange, Mass., has appointed Harry F. Creegan, former head of the dyeing and finishing division of American Viscose Corp.'s Textile Research Dept., as a sales engineer for its Textile Machinery Div. He will be in charge of cotton, silk, and rayon equipment sales in Pennsylvania, New Jersey, Maryland, Delaware, Northern Virginia, and Northern West Virginia. F. E. Wasson, of Philadelphia, will continue to be in charge of all equipment for the woolen and worsted industries. Mr. Creegan's headquarters will be at 207 Cresswell St., Ridley Park, Pa. He has had 21 yr. of experience in dyeing, printing, and finishing, having previously been with Joseph Bancroft & Sons Co., Inc., and Eddystone Mfg. Co.

Watson & Desmond, Charlotte, N. C., has been appointed by Grob & Co., Switzerland, to be its Southern representatives on heddles, heddle frames, and stop motions. The Grob frames feature aluminum top and bottom shafts.

M. W. Kellogg Co., Jersey City, N. J.—H. R. Austin, president of this company, which has lately added a loom to its line of equipment, has returned from a European trip during which he surveyed the fields of oil-refinery, chemical, and textile equipment. He states that his firm's interest in textiles extends from the spinning of yarn to the weaving of cloth. He was particularly impressed by the Nelson continuous-process for production of rayon yarns which he saw in operation while in England. Mr. Austin said that his company was studying the possibility of having the Kellogg loom built in England on a license basis. Alexander Kidd, Kellogg vice president, who accompanied Mr. Austin, is in charge of the company's textile equipment fabrication program.

***PAUL D. DOOLEN,** for 4 yr. general attorney for A. E. Staley Mfg. Co., Decatur, Ill., has become manager of the Industrial Sales Dept. of that company. He succeeds C. H. Davidson, resigned. He will be assisted by Ivan F. Wieland who has been assistant industrial sales manager for 10 yr. Henry Volle has been made Staley advertising manager. He joined the company 2 yr. ago as assistant advertising manager. He succeeds R. L. Nagle, who now heads the sale of monosodium glutamate, lecithin, and soy flour.*

Draper Corp., Hopedale, Mass., has appointed L. Marshall Newell as export manager to succeed Harland E. Cate.

United States Testing Co., Inc., Hoboken, N. J., last month held its tenth annual refresher course in textiles and testing techniques. Among the students, 19 colleges and uni-

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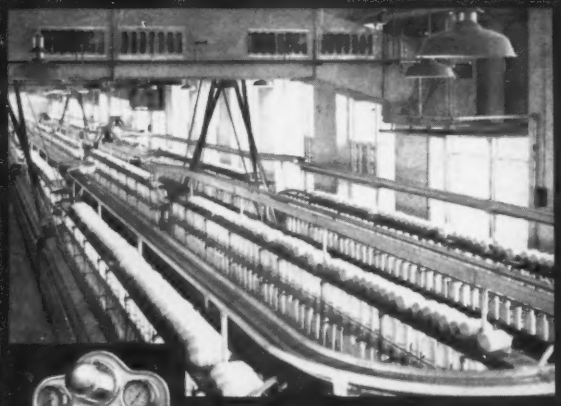
Certified CLIMATE

is better climate . . .

often pays for itself in a year



PARKS AUTOMATIC AIRCHANGER

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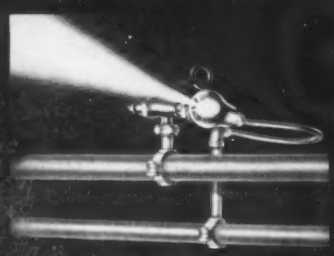
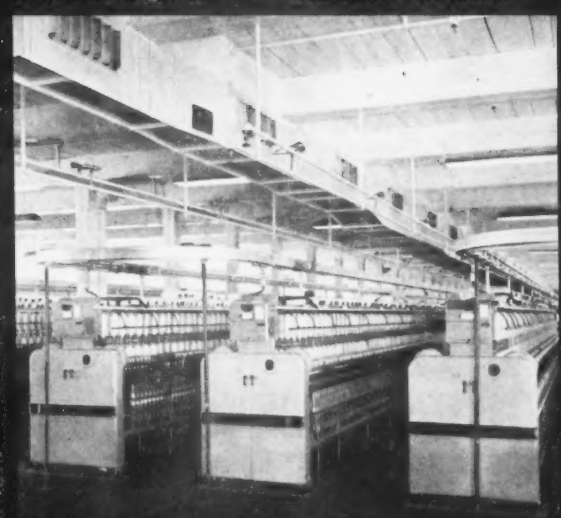


TURBOMATIC ATOMIZER



CERTIFIED CLIMATE INSTALLATION
Central Station with Turbomatic Boosters

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

NEWS ABOUT *Suppliers* (Continued)

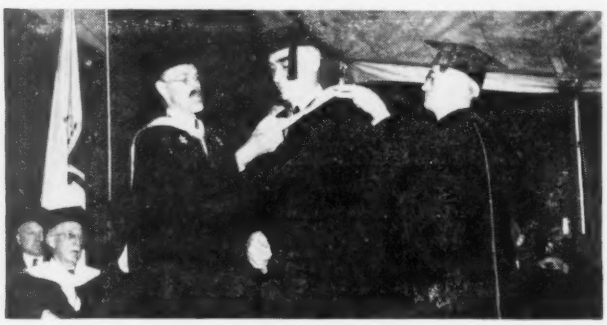
versities were represented as well as the Army Quartermaster Corps and several leading textile concerns. U. S. Testing has taken over in specific fields the research and development activities of the Crystal Research Laboratories of Hartford, Conn. This latter company developed the Ultra-Sonorator, the first laboratory apparatus for utilizing commercially the sound waves above the audible range. This apparatus is now being installed at the Hoboken plant of the testing company.

E. I. du Pont de Nemours & Co., Wilmington, Del., has appointed Frederick A. C. Wardenburg, manager of its European office in London, as director of sales of the Pigments Dept. at Wilmington. He succeeds Dr. D. H. Dawson, recently promoted from director of sales to assistant general manager. Dr. Charles J. Harrington, technical representative in the London office since January, becomes manager of that office. All Charlotte district sales offices of the Du Pont company opened new headquarters on July 7 in a building erected for them at 427 Fourth St. The group will serve Charlotte-region customers of four of Du Pont's ten operating departments—Organic Chemicals, Rayon, Grasselli Chemicals, and Electrochemicals. Formerly the district offices were in the Duke Power Bldg., 414 South Church St. A new Du Pont laboratory, devoted to research and development work in the field of coated fabrics and allied products was opened at Newburgh, N. Y., July 1. The laboratory is directed by R. E. Thomas and is part of the Chemical Div. of Du Pont's Fabric & Finishes Dept.

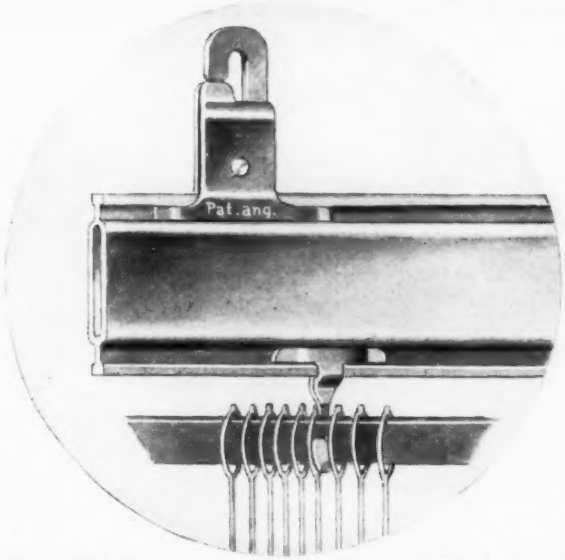
E. F. Houghton & Co. of Canada, Ltd., began operations in its new Toronto plant on July 15, under the direction of E. H. MacInnis, vice president and director of sales.

Monsanto Chemical Co.'s subsidiary, New England Alcohol Co., Everett, Mass., has elected Paul O. Huntington as vice president. He will continue to serve as sales manager for New England Alcohol in addition to his new duties. Monsanto reports the election of Arnold H. Smith as president of Monsanto (Canada), Ltd., with offices in Montreal.

Reynolds Metals Co., Louisville, Ky., has named Wilfred P. Lawless as manager of the Nashville sales district. He succeeds F. F. Tiffany, who now heads Reynolds' Dayton, Ohio, sales district. Mr. Lawless has been in charge of Reynolds' Charlotte, N. C., sales district. Reynolds Metals has appointed M. A. Sievert as an engineer in its Technical Service Dept.



HONORED BY TUFTS COLLEGE—David F. Edwards (center), president of Saco-Lowell Shops, receives the degree of Honorary Doctor of Science with this citation: "Able professional economist and courageous and successful business man, by your wisdom and industrial statesmanship you have made a basic contribution to the economic strength and welfare, not only of New England, but of the whole American manufacturing world." Profs. W. R. Ransom and R. J. Bartlett placed the hood upon the recipient's shoulders as Leonard Carmichael, Tufts president, conferred the degree. The presentation outlined Dr. Edwards' career, which includes an economic M.A. from Harvard, an associate professorship of industrial management at the Harvard Graduate School of Business Administration, past-presidency of the National Association of Textile Machinery Manufacturers, and important administrative and directorial posts in industrial, mercantile, and banking organizations, chairmanship of the NRA Code Authority of the textile-machinery industry, U. S. Army service as major of ordnance in World War I, and a fellowship in the American Academy of Arts & Sciences.



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3. **Sliding outside hooks or eyes can be placed in any position.**
4. **Sliding center brace.**
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The GROB Frames are made for long life — should need no replacement parts — no warping or bowing. The GROB Heddles are precision made with extra smooth warp eyes. Equip one or two looms and you will be convinced of the superiority of GROB Heddles and GROB Frames. Fewer breakdowns — smoother performance—higher efficiency, equals increased production.

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We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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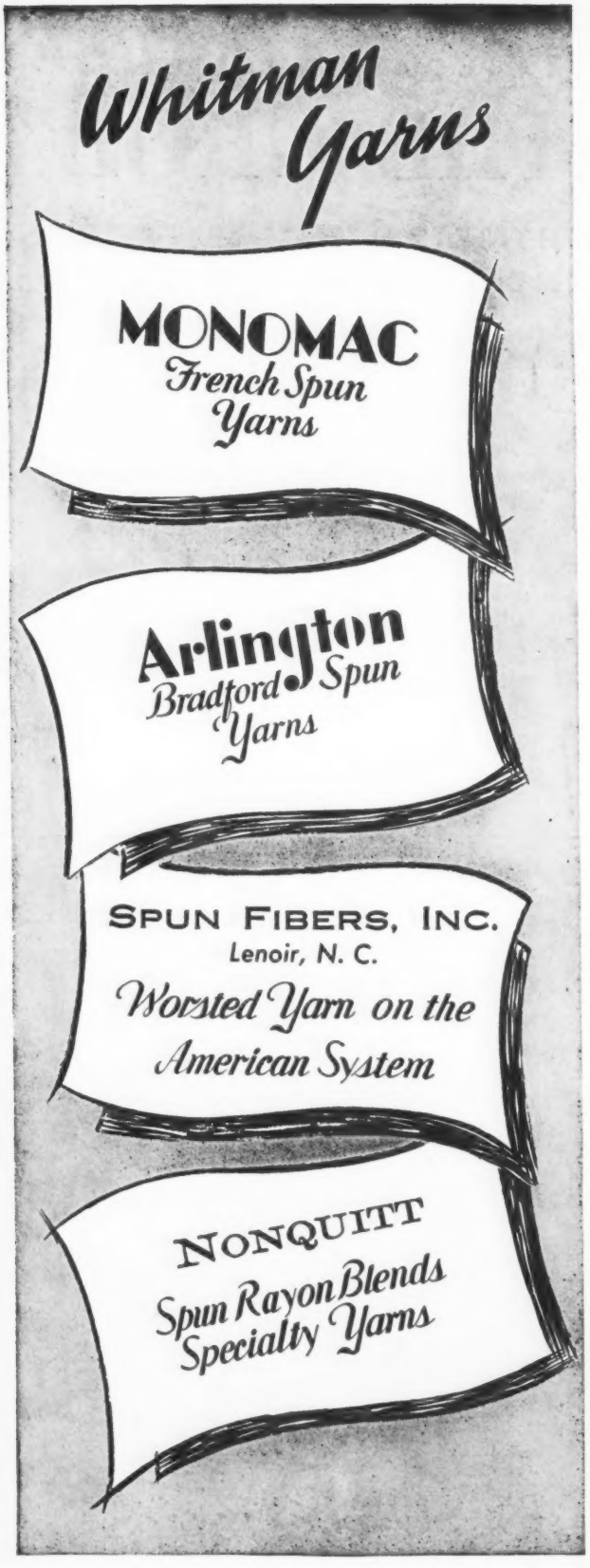
Manufacturers of Bobbin Holders for Over Fifty Years



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NEWS ABOUT *Suppliers* (Continued)

General Electric Co., Schenectady, N. Y., has appointed Harold F. Smiddy as general manager of its Chemical Dept., with headquarters in Pittsfield, Mass. A new multi-million dollar plant for the manufacture of silicone materials has been completed at Waterford, N. Y., by the Chemical Dept. Dr. Zay Jeffries, vice president of General Electric Co., has added George P. Lehmann to his personal staff and appointed Robert L. Gibson to succeed him as manager of the company's Plastics Div., with plants in Meriden, Conn.; Taunton and Pittsfield, Mass.; Scranton, Pa.; Coshocton, Ohio; and Decatur, Ill.

Raybestos-Manhattan, Inc., Manhattan Rubber Div., Passaic, N. J., has appointed A. L. Hawk as assistant to the western district manager in Chicago and R. B. Hazard as manager of distributor sales, western district.

Crocker - Wheeler Electric Mfg. Co., Ampere, N. J., Div. of Joshua Hendy Corp., has appointed Ralph S. Drummond as manager of its Cincinnati office. Mr. Drummond comes to Crocker-Wheeler from the Dynamotor Corp., where he was sales manager.

Brown Instrument Co., Philadelphia, has appointed Howard Marston, for the last 10 yr. sales and service engineer at the Boston branch of Minneapolis-Honeywell Regulator Co., to be industrial manager of the Brown division in Minneapolis and St. Paul.

Stein, Hall & Co., New York—George V. Caesar, in charge of starch research for Stein Hall during the last 20 yr., has taken a position with the Huron Milling Co., whose textile starches will continue to be sold exclusively through Stein Hall.

Filatex Corp., New York, subsidiary of American Viscose Corp., has appointed H. O. Shuptrine as its Southern representative.

New England Materials Handling Exposition, Boston, Mass., will hold its first show at Mechanics Hall, Boston, Oct. 5, 6, and 7, 1948. Show management committee chairman is Norman L. Cahners. The show manager is R. Kennedy Hanson, who is secretary-treasurer of the National Materials Handling Institute.

Diamond Alkali Co., Cleveland, Ohio, has elected Arthur W. Crossley, for last 3 yr. assistant general manager of the Potomac Electric Power Co., Washington, D. C., to the post of treasurer. He succeeds William H. Evans, who, in addition to his duties as general manager of Diamond's six silicate-producing plants, recently has been acting treasurer.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has named P. F. Bauer as manager of a newly formed Central Region of its General Machinery Div., with headquarters in Cleveland. Another region has lately been organized, designated as the Mid-Atlantic Region with headquarters at Philadelphia

DRAPER CORP., Hopedale, Mass., recently presented a check for $1,890 to Joseph Lancia (center), of Milford, a Draper employee, for a suggestion he offered. The check was presented by Thomas H. West (right), president of the corporation, in the presence of Hamilton W. Thayer (left), works manager. As a result of Mr. Lancia's idea, a special machine was designed to perform an operation, previously done by hand, at a considerable saving to the corporation. This award is the largest given to any Draper worker since the beginning of the suggestion program in July, 1946. Mr. Lancia has worked for Draper for approximately 30 yr.

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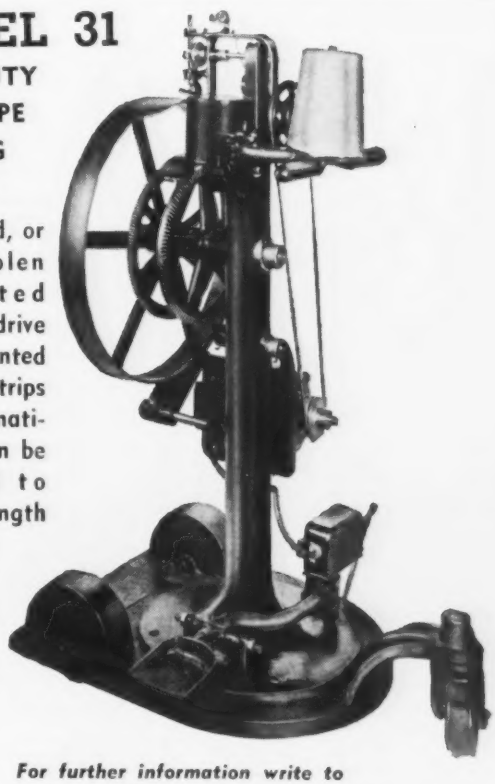
for piece-end, or tacking woolen and worsted cloth. Motordrive—motor mounted as column, Strips cloth automatically. Can be equipped to make any length of stitch from 3/8" long down to 7 stitches per inch.



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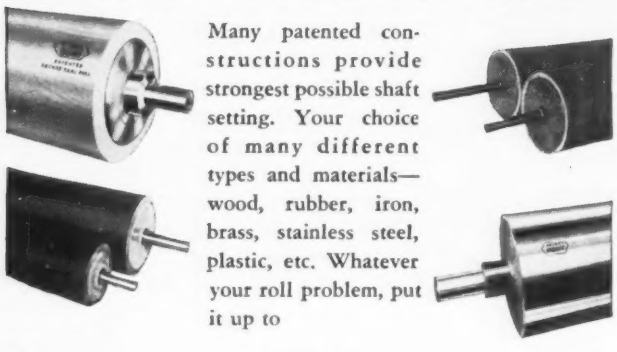
SHAF-TITE* ROLLS



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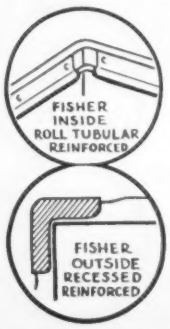
ROLLING TRUCKS



Fisher Vulcanized Fibre Trucks feature improved reinforcement where needed, both inside and outside. Thread guard casters and tapered head rivets. Built to avoid damage to trucks or to machinery on contact.

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FISHER MANUFACTURING CO.

MATERIALS HANDLING EQUIPMENT TEXTILE

BOX 244 -- HARTWELL, GEORGIA

NEWS ABOUT *Suppliers* (Continued)

under William Arthur, formerly Philadelphia district office manager. Mr. Arthur is succeeded as Philadelphia district office manager by Frank Freyler, manager of the Cincinnati district office. Mr. Freyler, in turn, is succeeded by W. F. Daly, who has been manager of the power section of the company's steam turbine department.

The B. F. Goodrich Co., Akron, Ohio, has opened its newly-completed research center on a tract of 261 acres at Brecksville, Ohio, between Akron and Cleveland. There are now 100 chemists, chemical engineers, physicists, and engineers on the staff, of which three physicists and three chemists are women. In addition there are about 125 non-professional personnel. Dr. H. E. Fritz, Goodrich vice president, is in charge of its research activities.

B. F. Goodrich Chemical Co., Cleveland, Ohio, has appointed George B. Koch as advertising and sales promotion manager. John F. Moriarty will handle publicity. John F. Amos will do technical writing. These appointments follow the resignation of H. W. Brinkerhoff, former advertising manager, and J. L. Whiteman, former sales promotion manager, to enter the publishing business in Cleveland.

Westvaco Chemical Corp., New York, and **Food Machinery Corp.** have reached an agreement for merger of the two companies. The name will be Food Machinery & Chemical Corp., and the business of Westvaco will be operated under the direction of its present management as the Westvaco Chemical Div. of the parent company. The merger agreement is in process of ratification by stockholders.

Third National Plastics Exposition to be held in Grand Central Palace, New York, Sept. 27 to Oct. 1, 1948, will feature demonstrations of new processes and special machinery on a larger scale than in the past.

Carnegie-Illinois Steel Corp., United States Steel Corp. subsidiary, Pittsburgh, Pa., has licensed Greer Steel Co., Dover, Ohio, to manufacture Cor-Ten, corrosion-resisting, high-strength, low-alloy steel. Other licensees are Lukens Steel Co., Republic Steel Corp., Crucible Steel Co. of America, Colvilles, Ltd., (Glasgow, Scotland), United Steel Co., Ltd. (Sheffield England), Inland Steel Co., and Sharon Steel Corp.

***F. L. SARGEANT** has been appointed manager of the New York Sales Div. of Reynolds Metals Co., Louisville, Ky. He succeeds Stuart Smith, who has been appointed special representative to the United States Air Forces with headquarters in Reynolds' Dayton, Ohio, office.*

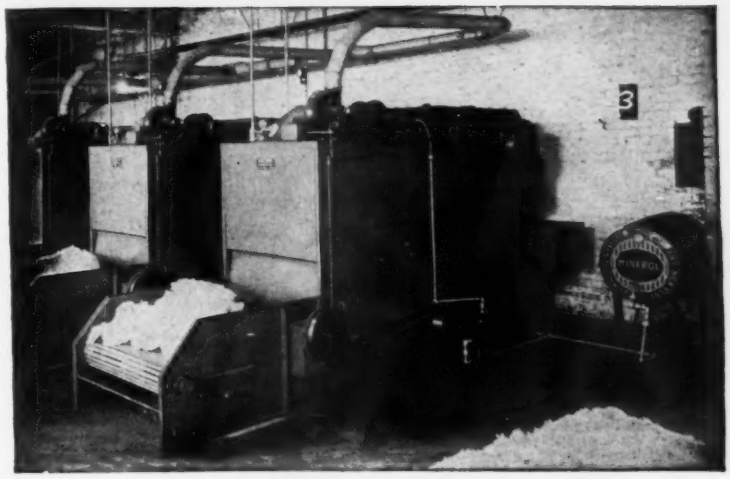
Bailey Meter Co., Cleveland, Ohio, has appointed H. T. Sawyer, formerly manager of the company's Seattle office to manage its larger Buffalo office, replacing the late S. W. Nelson. K. E. Atwood has been appointed Seattle office manager replacing Mr. Sawyer. For the last 10 yr., he has been attached to the company's Boston office.

Acme Steel Co., Chicago, has promoted Robert A. Morris to assistant to the president. Mr. Morris was formerly director of advertising-publicity. F. R. Grove, Jr., formerly assistant advertising manager, was promoted to the position of advertising manager.

Ansul Chemical Co., Marinette, Wis., has appointed William R. Rinelli as director of its new Customer Relations Dept. to correlate the company's advertising, publicity, sales promotion, and marketing.

Worthington Pump & Machinery Corp., Harrison, N. J., has appointed Harold T. Anderson, of Short Hills, N. J., as assistant to the general sales manager with headquarters at Harrison.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. • **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable.• **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. • **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions.• **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied combinations with cotton, wool and other fibres.

BRETON MINEROL PROCESS PATENTED

BORNE SCRYMSER COMPANY

Originators of the BRETON MINEROL PROCESS for CONDITIONING FIBRE

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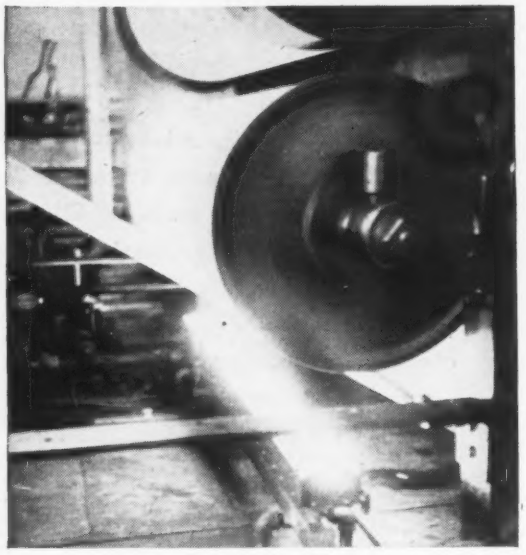
John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim



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Red-Ray Radiant Gas Burners operating under steam dryers. Greater drying speeds. No additional space required.

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Perfect Finish—Long Life

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BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

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Albany 1, New York

NEWS ABOUT Mills

Cotton Mill News

Anchor Mills Co., Huntersville, N. C., is installing long-draft spinning equipment.

Belle Vue Mfg. Co., Hillsboro, N. C., has recently spent $500,000 to improve operating and working conditions. Other extensive improvements are planned for time when material and labor conditions permit.

Bloom Mills, Inc., Monroe, N. C., has work going forward rapidly on installing machinery from Conestogo Cotton Mills, Inc., Lancaster, Pa., which Bloom company purchased several months ago. New Monroe plant has 5,000 sq. ft. of floor space, and about 4,500 spindles.

Bibb Mfg. Co., Macon, Ga., has awarded general contract for four one-story additions to unit at Columbus, Ga. Buildings will be additions to weave shed, slasher room, and boiler house. Additional machinery will be installed.

Boiling Springs, N. C.—James R. Riley and Robert R. Spilman have purchased cotton mill here that was owned and operated by Barbara Mills, Inc.

Cable Electric Products, Inc., New York, N. Y., has purchased plant of International Braid Co., at Providence, R. I., and will operate as second branch plant in that city.

Callaway Mills, La Grange, Ga., has installed additional high-speed weaving equipment in woven-loop rug division. New equipment doubles output of this department.

Cherokee Textile Mills, Knoxville, Tenn., will spend about $200,000 during 1948 for modernization and improvements in mills, and installation of additional equipment.

Columbia Mills, Columbia, S. C., has put in automatic picker-lap handling installation which is now in full operation. Picker laps are transported automatically between picker and card rooms.

Eastern Mfg. Co., Selma, N. C., has constructed addition to plant, and new long-draft equipment has been installed in carding department. Additional cards have been put in, and conventional-draft spinning frames have been replaced with long-draft frames.

Erwin Cotton Mills Co., Durham, N. C., plans construction of new building to house 164 additional looms at plant at Erwin, N. C. New loom building, plus third shift recently added, will mean increase of approximately 650 employees at Erwin, and construction of 60 new company houses has been begun.

Hermitage Cotton Mill, Camden, S. C., has begun work on new three-story, 100x 200-ft. addition. With completion of building, capacity of mill will be more than doubled. About 300 additional looms and 16,000 additional spindles will be installed.

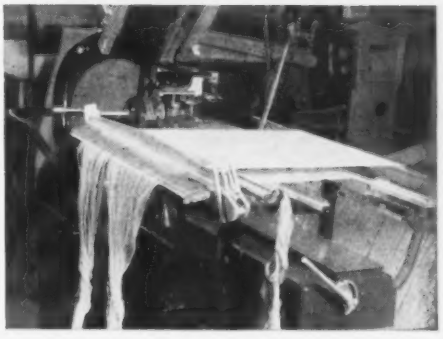
Highland Park Mfg. Co., unit at Charlotte, N. C., has erected weave-room addition. Company has installed new opening, cleaning, blending, and picking equipment, high-speed spooling and warping equipment, and automatic drawing-in machinery. New package and raw-stock dyeing equipment has been added; and box and dobby looms will be replaced. Mill has also added evaporative air-changing and air-conditioning systems. Tentering, bleaching, and mercerizing equipment has been replaced at Highland Park finishing plant.

Huntsville Mfg. Co., Huntsville, Ala., has tentative plans for addition to Unit No. 1, to form third-wing extension. According to reports, cost will be more than $1,000,000, including equipment.

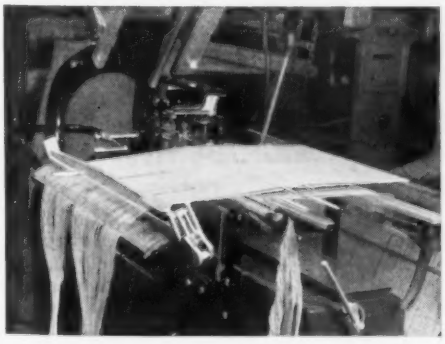
BARBER-COLMAN MODEL "LL" *Portable* WARP TYING MACHINE

THIS "UNIVERSAL" MACHINE TIES IN EITHER PLAIN OR LEASED WARPS WITH EQUAL SPEED AND EFFICIENCY

Under the conditions of modern styling, many mills need versatile equipment to handle frequent changeovers between filament and spun synthetic yarns. The Barber-Colman Model "LL" Portable Warp Tying Machine is extremely useful under such conditions because of its adaptability. It is a combination machine, with interchangeable selector mechanisms to select from either an end and end lease or a flat sheet. A trained operator can make the necessary changes in less than ten minutes. The production rate when tying from an end and end lease is the same as when tying from a flat sheet. Under average conditions, a good operator can tie up to 4000 ends an hour, or better. This machine is particularly valuable in mills where both flat and end and end leased warps are coming through, and where the use of separate machines is not justified as they would not be utilized to their fullest capacity.



Barber-Colman Model "LL" Portable Warp Tying Machine set up to tie in new warp from a flat sheet.



The same machine as above, but now loaded for tying-in leased warps, as shown by the lease rods.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

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WARP BEAM for
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BROAD LOOM BEAMS
★ for Crompton & Knowles Looms
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WINDSOR LOCKS, CONN.
BARE ELECTRIC CONDUCTOR & RESISTANCE TINSEL CORDAGE
DECORATIVE TINSEL — LAME — THREADS — CORDS — LAMINETTES
NOVELTY YARNS

NEWS ABOUT *Mills* (Continued)

Johnston Mfg. Co., Charlotte, N. C., has constructed two-story addition, and is now installing new opening, cleaning, blending, and picking machinery. Modern steam-heating plant has been put in, and all heating equipment in plant has been replaced with newest available facilities, utilizing unit-heating system.

Jordan Spinning Co., Cedar Falls, N. C., is adding 4,536 spinning spindles and 1,920 twisting spindles made by H & B American Machine Co. Eighteen spinning frames, each with 252 spindles, 3¾-in. gage, 2¼-in. rings, and eight twisters with 240 spindles each, 4-in. gage, 3-in. ring, are included.

Monroe Mills Co., Monroe, N. C., has installed new drawing frames, and company is now installing additional twisters in order to ply more of single combed-yarn production. New high-speed winding and warping equipment also has been installed in plant.

Park Yarn Mills Co., Kings Mountain, N. C., has awarded contract to C. T. Bennett Construction Co., Kings Mountain, for construction of two-story addition, 78x116 ft., to house new opening, cleaning, blending, picking, and twisting equipment.

Pee Dee Mills, Inc. Rockingham, N. C., is installing additional spinning and roving frames.

Roberta Mfg. Co., Concord, N. C., has installed new opening, cleaning, and picking equipment. Long-draft roving frames, and new long-draft spinning frames have replaced conventional-draft machinery.

Spatex Corp. has purchased Hoskins plant of Textron Southern Inc., Charlotte, N. C. Hoskins plant manufactures carded and combed lawns, and broadcloth. Robert Gilman, who heads Profile Cotton Mills, Inc., Jacksonville, Ala., is president of purchasing company.

Union Mills Co., Monroe, N. C., has replaced approximately one-third of spinning frames with new machinery. All of opening and cleaning machinery, and combers in plant are being replaced.

Valley Mills, Inc., Columbiana, Ala., is now clearing site for cotton mill. Machinery already received is being stored until construction is completed. New mill is expected to employ about 300 operatives, with annual pay roll of about $600,000.

White Oak Cotton Mills, Greensboro, N. C., has work going forward on opener room adjacent to picker building. It will contain 24 cotton openers of company's own design that are expected to produce better blends of cotton and reduce operating expenses. Building program is in charge of C. M. Guest & Sons, Greensboro.

Woodside Mills, Liberty, S. C., formerly Easley Mill No. 3, known as "Little Plant," is having new wing added. This will house machinery now on second floor of old building, and will make room for new equipment to be installed in spinning room. Card room will also be enlarged.

Worth Spinning Co., Stoney Point, N. C., is now replacing opening and cleaning equipment, installing additional cards, combers, roving frames, spinning machinery, and high-speed spooling, warping, and winding equipment.

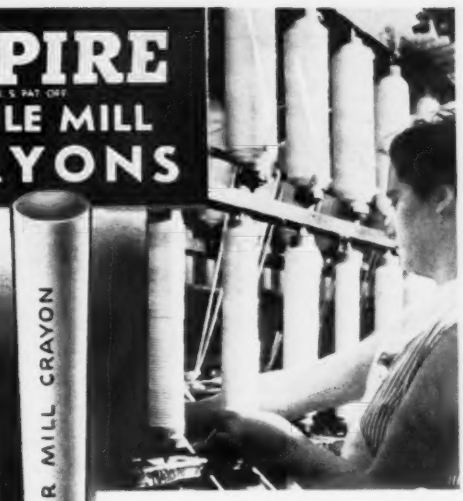
York Mills, Unit No. 1, York, S. C., has begun construction of $300,000 addition to be completed within three months. New building will house long-draft roving and spinning machinery, which is to be installed and in operation within six months.

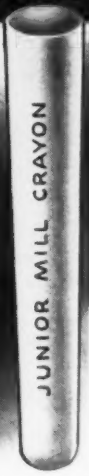
Wool Mill News

Albert Mills, Lower Vickers St., Manchester, Eng., one of largest worsted-yarn spinning firms of its kind in British Empire, is locating branch plant on Union St., Smith Falls, Ont., which it will operate under name of Hollands (Canada) Ltd. Contract has been let for construction of mill building. Structure is to be air conditioned, and have insulated walls and roof.

Astin-Hill, Ltd., Blvd. du Havre, Valleyfield, Que., makers of felts for paper machines, and subsidiary of Astin-Hill Mfg. Co., East Ridge Ave., Philadelphia, Pa., will build addition to plant in Val-

EMPIRE
REG. U. S. PAT. OFF.
TEXTILE MILL CRAYONS





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A trial will convince you that EMPIRE is the superior product to fill your most exacting need for this type of marker. Made in 18 clearly distinguishable colors and in large and junior sizes.

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REDUCED or ENLARGED RINGS?

Reduced *Enlarged*

To gain different package capacities without changing rail or holders, use DIAMOND FINISH Reduced and Enlarged rings.

If you are interested, we will gladly furnish information.

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Makers of Spinning and Twister Rings since 1873
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DANA WARP MILLS
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Cotton yarns, single and ply
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Colored yarns and warps
Spun rayon—yarns and warps

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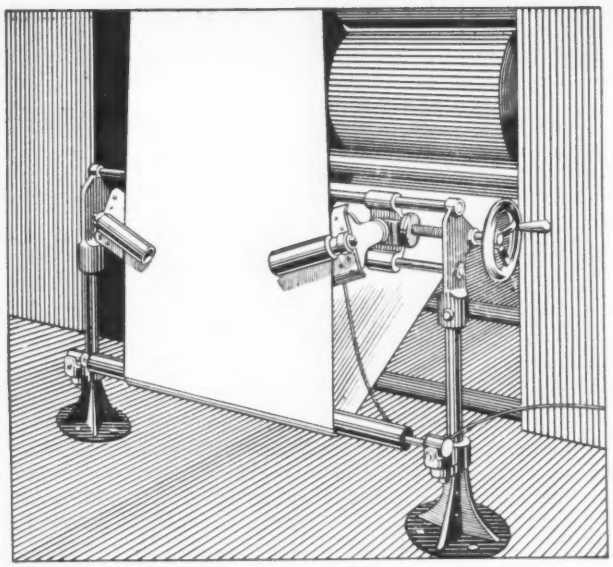

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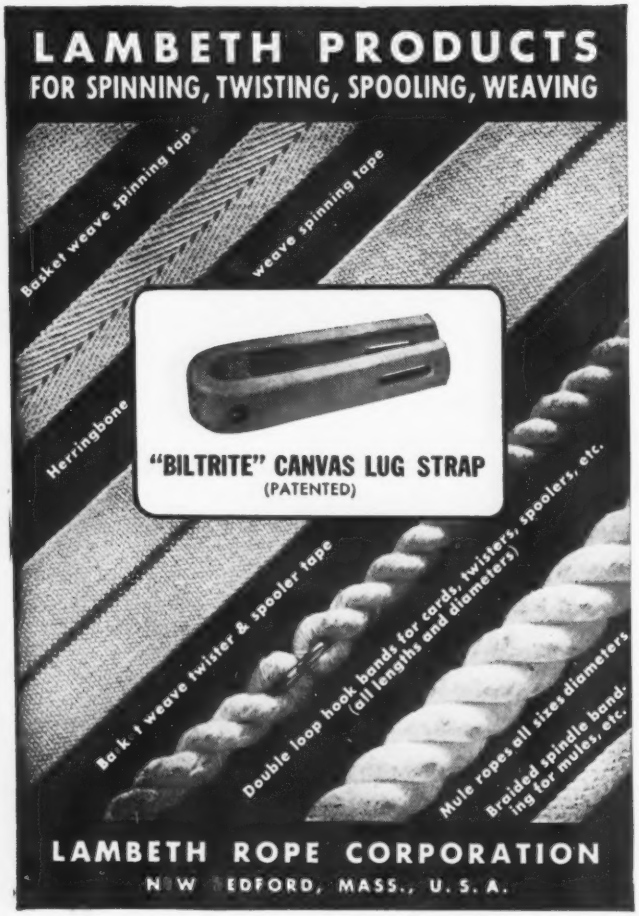
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NEWS ABOUT *Mills* (Continued)

leyfield. Proposed extension is to be 72x144 ft., with walls of masonry construction. Cost is estimated at $200,000.

Brooks Spinning Co. has begun construction of plant at Newman, Ga., that will manufacture woolen yarn. Plant is expected to have about 2,000 spindles. R. G. Brooks, Sr., is owner.

Chute Worsted, Inc., Sparks St., Brockton, Mass., has been organized by Oliver S. Chute, who will head new company. Plant, which is being set up for commission spinning, expects to be in production early in September. Equipped with 1,664 Bradford spindles, new organization will operate on modified Bradford system, using long draft on spinning and roving. Mr. Chute has been associated with Whitin Machine Works for 18 yr.

John Crowther & Sons (Canada) Ltd., new firm, will start operations in Elmira, Ont., before end of 1948. Parent company is John Crowther & Sons (Milnsbridge) Ltd., Huddersfield, Eng., makers of fine woolens. Work will begin on new mill building in Elmira, and it is expected that modern weaving plant for production of fine woolens will be ready for occupancy before end of 1948.

Desmarais Weaving Co., Forestdale, R. I., recently taken over by W. E. Lauron of Woonsocket, R. I., has been purchased by William Piette. Plant is now operating under name of Piette Weaving Co., and is running three shifts on commission weaving of worsteds.

Guelph Carpet & Worsted Spinning Mills, Ltd., Cross St., Guelph, Ont., has work well under way on new plant unit.

Macon, Ga.—D. W. Barnes, formerly with Uxbridge Worsted Co., is planning to build new worsted yarn mill here.

Packard Mills, Inc., Webster, Mass., has asked bids for new two-story addition. Charles T. Main, Inc., 80 Federal St., Boston, Mass., is engineer.

Royal Woolen Co., Sabattus, Maine, has been transferred to Sabattus Woolen Mills, Inc. Sale price is believed to have been in vicinity of $40,000. Joseph Loper, Jr., is president of Sabattus company.

Wright Spinning Co., division of Lincolnfield Mills, Lincoln, Me., has started production of worsted yarns on American system. Mill is using latest-type Saco-Lowell spinning frames. At present time, all production of Wright company is being used by parent company. Officers are Duncan Wright, president; Henry Lewis, III, treasurer; James T. Greenlaw, superintendent; and L. M. Burnham, purchasing agent.

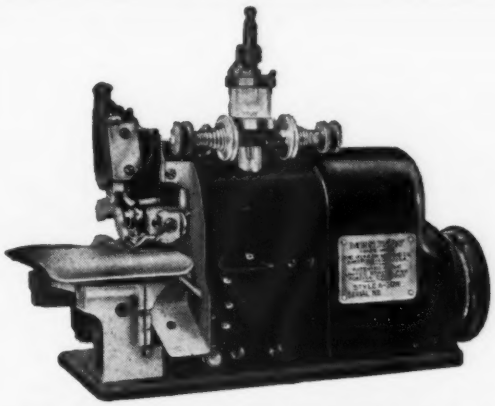
Synthetic Mill News

American Enka Corp., near Morristown, Tenn., has begun full-scale-production operations at new plant that cost about $26,000,000. Plant will manufacture 20,000,000 lb. of rayon tire yarn annually.

Beaunit Mills, Inc., Beverly, N. J., has let contract to Bethlehem Steel Co., Bethlehem, Pa., for structural-steel framing for proposed new mill at Childersburg, Ala., for viscose filament-yarn production, to be operated in name of American Development Co., recently organized subsidiary. Work on superstructure will begin at early date. Entire project will cost approximately $20,000,000.

Brookline Fabrics, Inc., Greenville, S. C., has been organized with capital stock of $325,000 to manufacture and sell fabrics. George A. Buckley is president. Southern Pile Fabrics Co., Inc., and Brooks Bros. Co., both of Greenville, have been purchased by Brookline Fabrics, Inc.

Burlington Mills Corp., has awarded general contract for one-story addition to mill in Greensboro, N. C., which will cost, including equipment, over $200,000. Company has plans for spending about $15,000,000 for additions and improvements in various mills; and will install additional machinery and facilities. Burlington has purchased warehouse area of government-owned New River Ordnance Plant, Dublin, Va. Property, including 62 acres of industrial land, ten warehouses, and railroad siding, was purchased for $80,000. New acreage is adjacent



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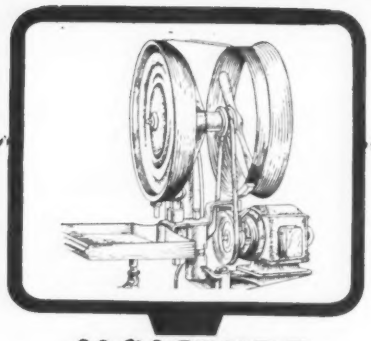

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NEWS ABOUT *Mills* (Continued)

to 319 acres purchased last fall.

Cadillac Textile Mills, Inc., Cumberland, R. I., has foundations in for mill additions. From private plans, one- and two-story extensions will be added that will cost $100,000. Rowley Construction Co., 260 Central Ave., Pawtucket, has general contract.

Canterbury Industries, Inc., has recently taken over Heywood Mills, Tilton, N. H., and is beginning to manufacture cotton novelties, rayon and silk fabrics. Louis F. Carmadella, treasurer, bought machinery when Heywood Mills was sold at auction in February. Lee Aleymer is president of new firm.

Century Ribbon Mills, Inc., New York, N. Y., has let contract to States Construction Co., Newport News, Va., at $229,000 for proposed new mill at Newport News, to be one-story, contain about 26,430 sq. ft. of floor space, and be entirely air-conditioned. William, Coile & Blanchard, Newport News, is architect.

Columbus Mills, Columbus, N. C., has plans to double size of plant. Program includes erection of another building and construction of homes for its employees.

Duplan Corp., Berwick, Pa., has let contract to Sordoni Construction Co., Forty Fort, Pa., for one-story addition, 135x445 ft. Cost, over $250,000, with equipment. Erection will begin at once.

Robbins Cloth Mills, Robbins, N. C., has awarded contracts to C. M. Guest & Sons, of Greensboro, N. C. and Anderson, S. C., for large expansion program at plant. Additional 25,000 sq. ft. of floor space will be added at once to cloth and weave rooms of present plant.

A. M. Smyre Mfg. Co., Gastonia, N. C., plans expansion and conversion of warehouse building into third production unit to be devoted exclusively to spun rayon.

Stonecutter Mills Corp., Spindale, N. C., has approved plans for three-story addition, part of which will be used for office service, with larger part for manufacturing operations. Cost will be more than $500,000, including equipment.

Textron Inc., Belton, S. C., which plant will make rayon crepe fabrics, is to use 120 C-4 looms. Textron Southern will lease recently sold Hoskins Mill, Charlotte, N. C., until September for closing-out purposes. Textron has broken ground at Hartwell, Ga., for new $2,500,000 rayon-weaving mill. Daniel Construction Co., Greenville, S. C., has contract. Mill will be windowless and air-conditioned.

Knitting Mill News

Archer Mills, Inc., Columbus, Ga., has asked bids for construction of addition to be used for office department.

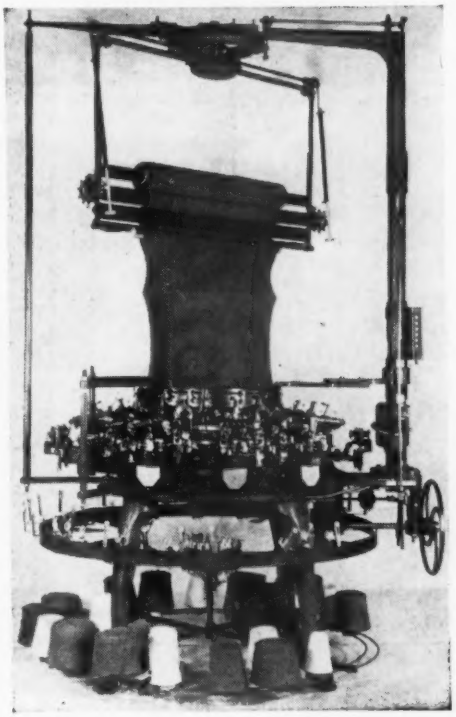
Barbet Mills, Lexington, N. C., has awarded contract for addition to picker building that will include two stories and basement. Company has also let contract for reinforced-concrete dye house, present dye house having been converted for package-yarn dyeing. Lockwood Greene Engineers, Inc., of New York, is in charge. Company has also received bids on new boiler plant.

Bruce Hosiery Mills Ltd., recently incorporated to operate mill for making men's woolen hosiery, is now in full operation in town of Port Elgin, Ont. Wm. H. Ross is president.

Butterfly Hosiery Co., Ltd., Drummondville, Que., has installed new machinery in recent months, and has placed orders for seven additional high-speed, 32-section, 51-gage Kalio knitting machines and auxiliary equipment.

Danita Hosiery Mfg. Co., and its subsidiary, **Rose Hosiery Mills,** now located at 51 N. 3rd St., Philadelphia, Pa., will shortly occupy three floors in larger building at 300 Spruce St., Philadelphia, where complete knitting and finishing operation will be established.

Durham Hosiery Mills, Durham, N. C., has completed extensive modernization program at full-fashioned hosiery plant. Program at five-story, reinforced concrete building included new machinery, new



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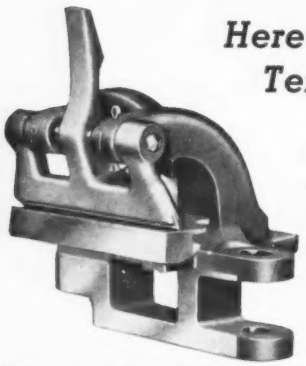

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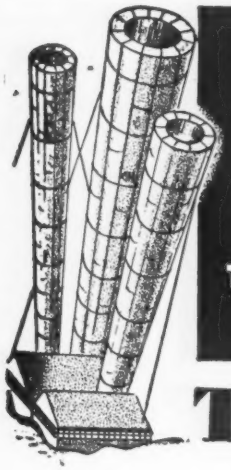

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NEWS ABOUT *Mills* (Continued)

lighting, complete rewiring, air conditioning throughout, and sealing the building to make it practically windowless.

Hoover Hosiery Co., Concord, N. C., new plant, has production moving ahead as rapidly as arrival of new machinery permits. Output at mill will be devoted entirely to fine-gage, full-fashioned hosiery.

Jordan Mills, Inc., Columbus, Ga., has put in more than $100,000 worth of new machinery to replace old equipment in move to improve manufacturing quality. Production has also been increased through replacement. Firm manufactures 8,000 doz. pr. of cotton socks per week, in addition to 25,000 yd. of upholstery material.

Klear Knit, Inc., Independence, Va., recently organized, has plans for construction of one-story mill for manufacture of outerwear. F. A. Preddy is president.

Penn-Carol Hosiery Mill, Inc., Concord, N. C., will move in July to new plant which company is constructing on former Camp Sutton property at Monroe, N. C. Offices of textile company will be continued at Concord, where all other operations except knitting will be carried on.

Ray Hosiery Mills, Philadelphia, Pa., has been formed as combination production plant and experimental laboratory for Fred C. Good & Sons, Inc., machinists. Raymond J. Good is president of new organization. Plant is located on second floor of Good Building, 521 West Glenwood Ave., and is now producing 51-gage full-fashioned hosiery in 15 and 30 denier nylon. Production is about 400 doz. pr. per week, and is expected to be doubled.

Skyland Hosiery Mill, Asheville, N. C., now being constructed on Johnston School Road, is nearing completion, and machinery is now being installed. Mill will employ 300 operatives, and 6-yr. program calls for total investment of $1,200,000.

Vanette Hosiery Mills, Dallas, Tex., is rapidly completing postwar modernization and expansion program. About 25 new knitting machines have been added; plant buildings have been enlarged; 260-ton air-conditioning unit has been installed; and other improvements have been made. H. B. Le Feaux is plant superintendent.

Dyeing & Finishing Plant News

Colmar Textile Printing Co., Los Angeles, Cal., was badly damaged by recent fire, and large quantities of cloth were destroyed.

Columbus Coated Fabrics Corp., Columbus, Ohio, has let contract to Leo E. Ruisinger, Inc., Columbus, for two-story addition to laboratory, 47x66 ft. Cost over $50,000.

Cranston Print Works, Cranston, R. I., has let contract to Bowerman Bros. Co., Providence, R. I., for addition to boiler house at mill.

Dundee Mills, Griffin, Ga., is completing new dye plant and bleachery, and has started installation of auxiliary equipment. New plant will have open-width jig, and continuous dyeing; and will replace East Griffin plant. Continuous open-width bleaching process will be installed in present bleachery next to rope system.

Stanley Dyeing & Finishing Co., Inc., Catasaqua, Pa., is now in full production on tubular knit fabrics of cotton and rayon. Dye house has stainless-steel dye tubs and can handle bleaching and dyeing of direct and developed colors on modern equipment.

Spinners Processing Co., Spindale, N. C., has installed modern steam plant, and dyeing department is being enlarged.

J. P. Stevens & Co., New York, N. Y., plans to construct $15,000,000 finishing plant near Kolloch, S. C., to handle cotton and rayon fabrics now being produced under its management.

Textile Printing & Finishing Co., Lebanon, Pa., has begun work on four-story and basement addition, for which general contract recently was let to D. I. Saylor Sons, Inc., Annville, Pa. Cost reported close to $300,000, with equipment. Edward Z. Scholl, Reading, Pa., is architect.

NEWS ABOUT Men

C. R. Palmer, president of Cluett, Peabody & Co. Inc., New York, N. Y., has announced that in accordance with company's retirement plan, he will retire Oct. 1. At that time he will be succeeded as president by **Barry T. Leithead,** vice president in charge of sales.

F. W. Symmes, chairman of board of Union-Buffalo Mills Co., Greenville, S. C., has been named to board of directors of United Merchants & Manufacturers, Inc., New York, N. Y.

French Campbell, president of Campbell Fabrics Corp., Charlotte, N. C., has joined Bloom Mills, Inc., Monroe, N. C., Gastonia, N. C., and Lancaster, Pa., as general manager.

Earl L. Clifford, formerly manager of Sumter Textile Mills, Inc., Sumter, N. C., has been named general manager of Uncas Printing & Finishing Co., Inc., Mechanicsville, Pa.

S. H. Elliott has been named president of Delta Co., Inc., Philadelphia, Pa., subsidiary of J. P. Stevens & Co., Inc. Mr. Elliott, who was manager of old company, will continue his management as president of Delta company.

William C. Summersby, executive vice president and general manager of Ware Shoals division of Riegel Textile Corp., has resigned to become assistant to **Elliott White Springs,** president of Springs Cotton Mills, with headquarters in Lancaster, S. C. Prior to joining Riegel organization, Mr. Summersby was associated with Springs Cotton Mills as manager of company's three units at Chester, S. C.

Kemp Alexander has retired as vice president and superintendent of Acme Hosiery Mills, Inc., Asheboro, N. C., but will remain an officer and director to serve in an advisory capacity.

David S. Ball has been appointed purchasing agent for Harden Mfg. Co., Gastonia, N. C., and has been transferred from Rock Hill, S. C., to main office of company at Gastonia. Mr. Ball succeeds **Robert H. Hood,** who has resigned to become associated with Keesee Belting Co., Inc.

Ernest R. Cathcart, manager E. I. du Pont de Nemours & Co., Inc., unit at Fairfield, Conn., has been named staff adviser of company's fabrics division. **Harry J. Jeneman,** assistant manager of Du Pont plant at Newburgh, N. Y., will succeeed Mr. Cathcart in Fairfield.

Herbert S. Cohen has joined Native Laces & Textiles, Inc.,

ALEXANDER SMITH RESEARCH CONFERENCE. Among those who attended the recent research conference held at the mill laboratories of Alexander Smith & Sons Carpet Co. in Yonkers, New York, to discuss fundamental textile research were the following (left to right): G. E. Schulz, president of Nye-Wait Co.; M. L. Griggs, vice president of Alexander Smith; Dr. John H. Dillon, director of research at Textile Research Institute and principal speaker; G. E. Clitter, vice president of A. & M. Karagheusian; and A. G. Ashcroft, Alexander Smith research director.

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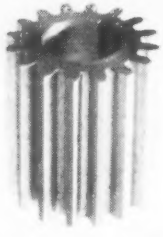

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NEWS ABOUT Men (Continued)

New York, N. Y., to aid in woven-fabric development in both cotton goods and rayon divisions of company.

William Greeley has been elected treasurer of F. C. Huyck & Sons, Albany, N. Y., at recent meeting of board of directors. **Harry Eldridge,** who has been both first vice president and treasurer of company, is thus freed to devote full time to vice-presidential duties and to broader phases of finance

Abijah U. Fox has been elected treasurer of American Thread Co., New York, N. Y., effective Aug. 2.

Henry H. Lickel, vice president and assistant secretary, has been elected secretary of William Iselin & Co., Inc., New York, N. Y. **Stellan C. Wollmar,** vice president, will also serve as treasurer of company.

Harry N. Conduff, secretary of Charlottesville Woolen Mills, Charlottesville, Va., has been elected treasurer to fill place held by the late Harman A. Dinwiddie. He will also retain position of secretary.

Paul D. Emery has become plant manager of Hill Mfg. Co., Lewiston, Me.

George Frick, superintendent of East Griffin Dye Plant of Dundee Mills, Griffin, Ga., has been made general superintendent of dye and bleaching operations. He is being succeeded in former position by **George Fogle.**

C. L. Hall has become resident manager of Danville Knitting Mills, unit at Bon Air, Ala. He was formerly research and development engineer of Callaway Mills, La Grange, Ga. He succeeds **A. A. Kirkpatrick.**

Robert W. Hughes, group manager of Burlington Mills Corp., Greensboro, N. C., has resigned to join Acme Hosiery Mills, Inc., Asheboro, N. C., as production manager and general superintendent. He will succeed **Kemp Alexander,** who, after many years as superintendent of Acme recently retired from that position. Mr. Alexander, however, remains as an officer and director of company.

R. E. McTigue, general superintendent of Unity Spinning Plant of Callaway Mills, LaGrange, Ga., has resigned, and **J. G. Maddox** succeeds him at Unity. **J. Philip Cleaveland** will take over as superintendent at Oakleaf Plant of Callaway organization.

Harold V. King has become general manager of Hill and York divisions of Bates Mfg. Co., in Lewiston and Saco, Me., succeeding **A. E. Tousignant.**

Robert J. Reiner, for last four months in research and development branch of Native Laces & Textiles, Inc., has become head of its elastic products division. In this capacity, Mr. Reiner will deal with merchandising and looking after production of elastic fabrics which company expects to expand.

Walter E. Scholer will become manager of fabric development department of American Viscose Corp., Wilmington, Del. In this capacity he succeeds **Pierre Sillan.**

H. L. Pruitt, general manager and superintendent of Otteray Textiles, Inc., Anderson, S. C., has been appointed general manager of new Haynesworth Mill, now under construction at Anderson. J. **Harold Mason** will be superintendent in charge of operations.

Wilton Todd, superintendent of Newberry Textile Mills, Newberry, S. C., has resigned to accept position with Joanna Textile Mills, Goldville, S. C.

W. H. Wolfe has resigned as superintendent of carding at Lancaster Plant of Springs Cotton Mills, Lancaster, S. C., to accept similar position with Martha Mills, textile division of B. F. Goodrich Co., Thomaston, Ga.

James W. Stanley, who has been agent at Kennebec Mills of American Woolen Co., Fairfield, Me., is now with Schuster Woolen Mills, Inc., as general superintendent.

Edward Tobin has become dyer at Warren Woolen Co., Stafford, Conn.

B. J. Ward has become overseer of dressing and designer at Ace Woolen Co., Norwich, Conn.

Howard S. Wilcox has become overseer of carding at Yantic Mills, Yantic, Conn., and **A. J. Hawkins** has become overseer of weaving at same plant.

NEWS ABOUT *Men*

(Continued)

E. E. Tobin has become overseer of dyeing at Norwich Mills of American Woolen Co., Norwich, Conn., succeeding **Thomas Hetherman.**

Everett E. Syms has been appointed superintendent of Atlantic Mills Div. of A. D. Julliard & Co., Inc., Stottville, **N. Y. Percy Arran,** formerly with Atlantic Mills, Stottville, has returned to take charge of finishing there, after resigning similar position with Raritan Mills, Raritan, N. J.

Donald Bamford has become acting superintendent of Paragon Worsted Co., Providence, R. I.

L. A. Baskerville, until recently superintendent of Belding-Corticelli, Ltd., Coaticook, Que., has been promoted to manager of mill.

Russell F. Bowen has resigned as dyer at Dempsey Bleachery & Dye Works, Pawtucket, R. I.

A. Gerald Brown, overseer of dyeing, has resigned his position with Cowan & Shain, Haverhill, Mass.

John H. Crane, of Hazardville, Conn., has become overseer of dyeing for Roff Knitting Mills, Inc., Cohoes, N. Y.

Bernard W. Crowe has become overseer of weaving at United Rayon Mills, division at Elberton, Ga. He formerly held similar position with Callaway Mills, Elm City unit, La Grange, Ga.

George Krause has become overseer of finishing at Wyandotte Worsted Co., Waterville, Me., under **J. P. Scanlan,** who is now superintendent of dyeing and finishing.

Henry Lane has become superintendent of R. C. Swan Co., Keene, N. H.

Daniel Mack has become overseer of twisting at Atlantic Mills, Stottville, N. Y.

R. A. Playdon is now general superintendent for M. T. Stevens & Sons Co., Rockville, Conn.

Dennis Rainville has become overseer of finishing for Saybrook Mfg. Co., West Warwick, R. I., succeeding **Joseph Golinski.**

Laurie Baker has become overseer of worsted carding at unit of Pacific Mills at Lawrence, Mass. He succeeds **Chester Salois.**

Richard Barry has become overseer of knitting at Kilburn Mills, New Bedford, Mass.

David T. Black has become superintendent of Geneva Mill of Wanskuck Co., Providence, R. I., succeeding **F. C. Cushing,** resigned.

L. F. Bois has become overseer of weaving at Bruck Silk Mills, Ltd., Sherbrooke, Que.

J. N. Bouffare has resigned as overseer of carding for Wister Spinning Co., Philadelphia, Pa.

E. F. Currier has become overseer of spinning at Dodge-Davis Mfg. Co., Bristol, N. H.

Edward Friar, Jr., has become assistant superintendent of Almardon Mills, Lonsdale, R. I.

Louis S. Graichen, head colorist and night superintendent for Glasgo Finishing Co., Glasgo, Conn., has resigned to become superintendent of Greenwich Bleachery, East Greenwich, R. I.

William A. Green, has joined Housatonic Dyeing & Printing Co., Derby, Conn., as plant manager. He resigned recently as New England sales manager of Textile Colors Div. of Interchemical Corp.

M. J. Grimes, former general overseer of weaving at Greenhalge Mills, Pawtucket, R. I., has become superintendent of Kent County Mill, West Warwick, R. I.

J. Katchegensky has become superintendent of Shefferd Woolen, Ltd., Granby, Que. He succeeds **B. Hecht.**

S. K. Lawton has resigned as production manager for Broadalbin Knitting Co., Broadalbin, N. Y.

George Lodge has again become overseer of finishing at Guild-Northland Mills, Laconia, N. H.

John Lomas has become superintendent of Yorkshire Worsted Mills, unit at Chester, Pa. He succeeds **C. D. Fitzgerald.**

J. E. Love is now overseer of dyeing at National Worsted Mills, Jamestown, N. Y.

Announcing—

NYLON FLYER BLOCKS

FEATURES

NEED NO LUBRICATION
•
BORE MOLDED TO FIT SPINDLE
•
SMOOTH FINISH
•
NO LOOSE PARTS
•
BALANCED FOR UNIFORM TENSION
•
LIGHTER IN WEIGHT
•

These new Nylon Blocks are available in 3 types and in 2 colors, black and white. The use of two colors readily determines whether the block is wired right or left hand. Blocks are rust-proof and washable. Being molded — not reamed or drilled — the bore is smooth and non-porous. The molding process insures uniformity in size, weight and fit on the spindle. Wiring is simple, no tools or jigs. And wiring is *fast* with McHale's high grade moderately priced ready formed wires. Have successfully withstood 18 month mill test.

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Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.
Bottoms finished 13/16". Sides and ends finished 1¼", 1⅛", 1" or ⅞", whichever desired. Made from maple, poplar, cypress or fir lumber.
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COMBED WOOL (tops)

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Deep, accurate, immediate moisture content readings

Now you can quickly and easily test moisture content in the range of 0-15% (wet basis). Specifically designed for the textile industry, Model PD-1 makes use of electronic penetration field to test material to average depth of three inches as compared to depth of one inch heretofore.

Duplicable readings are insured by microswitching arrangement which lights meter dial when correct pressure for test is applied. Calibrations for scoured and combed wool, wool yarns and wool blankets are available with instruments.

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Hooks, unhooks, adjusts quickly. Saves time and trouble in moving cartons, small merchandise lots ... anything that can be strapped together. Strong, durable web strap with nickel plated hook and buckle. Will not slip. Write for prices, free sample ... state length.

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PAY ROLL CONTROLS WORK LOAD STUDIES

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COST REDUCTION SURVEYS

RALPH E. LOPER CO.

GREENVILLE, S. C. FALL RIVER, MASS.

NEWS ABOUT *Men* (Continued)

George McKnight, overseer of carding, has resigned from Providence Wool Combing Co., Providence, R. I.

Alf Morel has become overseer of weaving at Cheney Bros., South Manchester, Conn.

Simon Nath has become overseer of dyeing at Richard Finishing Co., Jermyn, Pa.

Floyd Nettleton has become overseer of carding with Surr Mfg. Co., Rochdale, Mass.

William Harding, overseer of knitting for Myrtle Knitting Mills, Inc., Unionville, Conn., has been made assistant superintendent.

W. E. Lovely, of Providence, R. I., is now with Sawyer Mills of American Woolen Co., Dover, N. H., as overseer of weaving.

OBITUARY

George W. Summersby, 57, president of Bradford Dyeing Association, Westerly, R. I., died June 15. He had been associated with Atlantic Mills, Lawrence, Mass.; Amory Brown & Co.; Boston Mfg. Co., Waltham, Mass.; New Bedford Spinning Co.; Spencer Corp., Spindale, N. C. He was member of the National Association of Finishers & Dyers, and National Association of Cotton Manufacturers.

A. Felix du Pont, Sr., 68, a director and former vice president of E. I. du Pont de Nemours & Co., Inc., died at his summer home at Rehoboth Beach, Del., June 29. Joining the company as a private secretary to his father in 1900, he was made vice president in 1919, a position he held until his retirement.

W. Irving Bullard, 67, Charlotte, N. C., manufacturer, died June 28. A native of Waltham, Mass., he had been in Charlotte since January, 1933, when he established the Jacobs Mfg. Co. there. Only recently he had merged the Charlotte plant with three in Connecticut and was chairman of the board of the new Bullard-Clark Co. He was the inventor of Plyweld, the plastic picker stick.

John H. Waterhouse, 78, who retired from the mill business 12 yr. ago, died recently. For many years he operated Blackinton Mfg. Co., North Adams, Mass. In 1908 and 1909 he was mayor of North Adams, Mass.

Charles Phillips, 59, former president of Northern New York Silk Mfg. Co., Watertown, N. Y., died June 6 in Los Angeles. He moved to Los Angeles about 2 yr. ago.

Frank Starr Jerome, 77 Orange, Conn., president of Seymour Mfg. Co., and an official of Pond Lily Co., New Haven, died June 22. Mr. Jerome was also president of Seymour Trust Co., and an officer of American Crucible Co., Seymour Products Co., Naugatuck Valley Co., and Doolittle Lake Corp., Norfolk.

Samuel R. Haines, chairman of the board of Roxbury Carpet Co., Saxonville, Mass., died recently. He was at one time associated with Dodson Mills, Pittsfield, Mass., American Woolen Co., leaving in 1923 to organize his own company of Haines-Bloomfield & Kincaid.

Henry Faurot, 83, president of Western Felt Works, Chicago, Ill., died June 1.

William Samuel Caskie, 61, vice president and secretary of Southern Textiles, Inc., Lynchburg, Va., died June 11.

John E. Crotty, 78, former vice president and general manager of the Walnott Knitting Co., Utica, N. Y., died July 1. Mr. Crotty retired from the firm in 1945. He previously had been associated with the Oneida Knitting Co. and E. I. du Pont de Nemours & Co. in Buffalo.

William W. Crews, vice president of Comer Avondale Mills at Sylacauga, Ala., died June 10.

Bernard L. Mock, 62, of Beverly Hills, Calif., a retired vice president of Mojud Hosiery Co., Greensboro, N. C., died at Beverly Hills July 2. When he retired several years ago on account of declining health, he was with the sales department in New York.

Edward Hinchliff, of Bur-

NEWS ABOUT *Men* (Continued)

son Knitting Co., Rockford, Ill., was one of the 43 persons killed June 17 in the crash of a United Air Lines DC-6 near Mt. Carmel, Pa.

Harman A. Dinwiddie, 69, vice president and treasurer of Charlottesville Woolen Mills, Charlottesville, Va., and a former president of the Peoples National Bank there, died May 30.

Charles L. Wilde, 86, retired manufacturer died June 10. Mr. Wilde established one of the first knit-wear mills in Hazleton, Pa., in 1898, selling his interests in 1916.

Benjamin W. Lowenthal, 57, a retired executive of United Merchants & Manufacturers, New York, died June 9.

William A. Clarke, 68, former secretary-treasurer, of York Knitting Mills, Ltd., Toronto, Ont., died recently. He joined York Knitting Mills 36 yr. ago, as an accountant. He was active in the firm until his retirement in 1947.

George M. Bowes, 72, former secretary of Entwistle Cotton Mills, Rockingham, N. C., died June 17.

Sidney Adams, 67, a director of Arcade Mills, Rock Hill, S. C., died June 2.

Arnold Taylor, 67, formerly associated with New England textile industry, died June 16 in Rochester, N. Y., where he had lived since his retirement from the Verney Mills, Manchester, N. H. He also had been with Whitman Mills.

Louis J. Colaianni, Sr., 54, general manager of Allied Textile Printers, Inc., Paterson, N. J., died recently.

Robert S. McKinstry, manager of Oakes Mills, Bloomfield, N. J., died recently.

James W. Armstrong, 58, former Toronto sales manager for Mercury Mills Ltd., who resided in Toronto, died recently. He had been retired for two years.

William Denby, 73, a director of the former Joseph Benn & Sons Mills, Greystone, R. I., died June 16. He at one time supervised the weaving department of this mill.

Allen Architand Roff, 67, secretary-treasurer of Roff Knitting Mills, Inc., Cohoes, N. Y., died June 27.

Thomas B. Campbell, 69, laboratory technician at Arkwright Finishing Co., Fiskeville, R. I., died June 23. Mr. Campbell had been employed at the plant for 14 yr. He had also been associated with the Hope Mill and the Phenix Mill.

Martin A. Burke, 76, a retired associate of William Iselin & Co., New York, with which firm he was connected 48 yr., died June 21.

John F. Reardon, 52, superintendent of Grosvenordale Mills, Grosvenordale, Conn., died June 15. Mr. Reardon had lived in Grosvenordale since 1912, except for 8 yr., when he was superintendent of the Lonsdale Co. at Blackstone, Mass. He was a member of the Southern New England Textile Association and the New England Textile Club of Boston.

Charles H. McCormick, 79, master mechanic at Fruit-of-the-Loom mill of B. B. & R. Knight Co., Providence, R. I., for 35 yr., died June 11.

William Lefferts, who retired as an executive of Mallory Hat Co. 12 yr., died June 9.

Harry Bentley, 54, a foreman of the frame room at East Greenwich Bleachery, East Greenwich, R. I., died June 6.

Marvin Usery, 50, a department overseer for Hardin Mfg. Co., Gastonia, N. C., was killed in an automobile accident May 29.

Charles William Rogers, 70, who has worked for Consolidated Textile Corp., Lynchburg, Va., for 54 yr. in different capacities, and who this year retired as an assistant overseer, died recently.

C. W. Brazeal, 79, died recently. He was at one time associated with Thayer Woolen Mills, Oxford, Mass.; several other New England Mills; Peerless Woolen Mills, Rossville, Ga.; Lacon Woolen Mills, Lacon, Ill.; Marshall Field Mills, Spray, N. C. He returned to Rossville, Ga., and retired.

George Wampold, 79, with Granite Hosiery Mills, Souderton, Pa., for 63 yr., died recently.

AMERICAN...the yarn for you, runs more efficiently, produces a finer product, easier to sell...more profitably

American Yarn & Processing Co.

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MEN WANTED
POSITIONS OPEN

GENERAL MANAGER group of 5 textile mills; worsted yarn supts.; worsted and woolen cloth mill supts. paying up to $15,000; managers, supts., asst. supts., foremen and fixers for full fashioned and seamless hosiery mills; production manager stitching, sewing, cutting nylon fabrics, up to $10,000; supts. and foremen silk throwing; plant supt. with mech. eng. education up to $10,000; supt. rayon-cotton mill in So. America; purchasing agent for Canadian mill; supt. knitted and woven lingerie plant; garnett plant managers and supts.; development engineer with technical education for sewing machine firm; engineering executive to handle designers and draftsmen, large textile machine firm; supervisor weaving and preparatory processes rayon mills; asst. supts. for textile mills (several). Textile mill consultant, group of mills, salary up to $15,000 year; textile mill engineer with mechanical engineering education $7,500 year; assistant superintendent, garnetts and pickers, fine opportunity for advancement; senior industrial engineer to take charge of time studies, methods, analyses, establishments of accurate cost standards, etc.; salesman for sportswear for New York State, New England and Ohio territories.

OVERSEERS for following dpts.: worsted drawing; worsted spinning; rayon and cotton warp preparation for mills in the United States and foreign countries; rayon and cotton skein dyeing; woolen and worsted finishing; Tompkins knitting machines; cotton-rayon piece goods dyeing; dyeing and finishing combined for rayon and woolen mills in So. America; woolen spinning; rag picking; shoddy carding; bleeching and dyeing rayon and cotton development knitted piece goods; overseers for woolen carding paying up to $150 week.

SECOND HANDS for woolen, worsted, cotton and silk weaving; woolen and cotton carding.

CLAIM ADJUSTOR woolen and worsted fabrics; boss card grinder; woolen finisher to do demonstrating and selling chemicals; 2 cotton card grinders; head loom fixers; spindle setters; cotton, woolen, worsted and silk loom fixers; slasher tenders; erector worsted spin. frames; woolen card fixers; roller and screen machine printers for Canada and So. America; dresser tenders; fixer Tompkins knitting machines; chemical salesman; research chemist; loom fixers for So. America; and many others.

We invite correspondence (confidential) with mill executives seeking new positions and employers seeking new executives. Over 50 yrs. Confidential Employment Service for Textile Mills.

CHARLES P. RAYMOND SERVICE
(Incorporated)
294 Washington St., Boston 8, Mass.
Liberty 2-6547

WANTED
WEAVING SUPERINTENDENT

For 300-Box Loom Plant in Eastern Pennsylvania weaving high grade silk and synthetic fabrics. Thorough knowledge of automatic looms and preparatory machinery essential. Splendid opportunity for experienced man capable of producing quality merchandise.

Living Quarters Available

P-5673, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
WEAVER OVERSEER

Large Southern Textile Mill has opening for weaving overseer. Must be first-class man on Draper looms, efficient organizer and fully familiar with all details of weaving and slashing operations. Excellent compensation to right party.
P-5560, Textile World
330 West 42nd Street, New York 18, N. Y.

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NEW ADVERTISEMENTS received by 10 A.M., August 17th will appear in the September 16th issue subject to limitations of space available.

WANTED
Finishing Plant Superintendent

Plant Owners now in the U. S. A. Propose to engage experienced man for their Mill in Chile, S. A.—Buildings and Equipment modern in every respect. Applicants must be thoroughly qualified to direct all phases of production in connection with Bleaching, Dyeing, Printing and Finishing of Cotton Fabrics.

P-5740, Textile World
330 West 42nd Street, New York 18, N. Y.

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EMPLOYMENT SERVICE

WANTED MASTER Mechanic woolen mill; Boss Knitter Tompkins Circular Machines; 2 Boss woolen spinners; 1 boss woolen carder; ass't Supt. worsted mill. Tom Byron Employment Service, 703 Union St., Hudson, N. Y.

SELLING OPPORTUNITY OFFERED

A BRITISH firm wish to contact a Wholesale House with wide connections with Retail stores in the United States, with a view to Sales of Rayon and Pure Silk hand Embroidery yarns made up in a special form of pack. Patent covered in U.S.A. and Canada. RW-5784, Textile World.

WANTED: SENIOR and Junior Textile Machinery Salesmen for top rated concern Both positions require men potentially capable of highest earnings. Experience in dyeing and finishing operations would be valuable. Reply giving full information on education, experience, age, etc. to SW-5814, Textile World.

POSITIONS WANTED

WEAVING PLANT Superintendent wanted by a young man experienced in weaving, throwing, warping, winding and slashing of rayons. Nylons, Fabrics, Dress, sheer goods, satins, twills, and novelty goods. Experience with Draper and C&K Auto. looms. Assure quality production. Puerto Rico and South America are invited to write. PW-5259, Textile World.

(Continued on page 284)

Available
INDUSTRIAL ENGINEER
TIME STUDY — METHODS

10 years experience in Industrial Time Study, Methods Engineering in woolen & Cotton Textile and Metal Trades Manufacturing-Wage Incentives, standards, Job Evaluation, cost reduction surveys, etc. College graduate, M.A. in mathematics, Teaching experience, Veteran, Married. Age 38; Desires responsible position. Write

PW-5776, Textile World,
330 West 42nd Street, New York 18, N. Y.

OPPORTUNITY
for
Graduate Engineer—25-35

MECHANICAL-INDUSTRIAL-TEXTILE

At least 5 years experience in Textiles
Minimum starting salary $7500 for qualified man

Leading textile organization

P-4868, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED CLOTH ROOM OVERSEER by large Southern Textile Mill. Must be fully familiar with handling and grading of print cloth, tobacco cloth, light twills and similar fine yarn fabrics. Good compensation and house to right party.
P-5613, Textile World
330 West 42nd Street, New York 18, N. Y.

FINISHER WANTED

Woolen and worsted mill of high grade fabrics, manufacturing broadcloth and suedes, wants a first class finisher. A man with highest reputation, and outstanding knowledge. Salary up to $15,000 annually. Write stating present and past experience, age, etc.
P-5585, Textile World
330 West 42nd St., New York 18, N. Y.

SUPERINTENDENT WANTED

Woolen mill, manufacturing fine quality goods, broadcloth, suedes, would like to get a top notch man, experienced in every phase of manufacturing and finishing. A man capable of assuming great responsibilities. Salary no object. Write stating education, present and past experience.
P-5586, Textile World
330 West 42nd Street, New York 18, N. Y.

UNUSUAL OPPORTUNITY FOR ADVANCEMENT

is offered to young man with technical education and experience qualifying him for executive position in cotton bleach, dye and finishing works.
P-4738, Textile World
330 West 42nd Street, New York 18, N. Y.

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LEADING TEXTILE CENTERS OF AMERICA

NEW YORK CITY

Fourth of American textile centers in value of production. Mulberry Street was named after the trees set to furnish food for silk worms . . . and silk, linen, coarse wool and linsey-woolsey were the principal textile products of the infant city. In 1789 appeared the first ad offering to take in cloth and yarn for bleaching. But not much textile industry ever developed in Manhattan Island, owing to lack of water power. Instead, it became the greatest center for the cutting-up trade or manufacturing clothiers.

"Certified for Leadership"

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1—72" C & M 2-cylinder Brushing machine
1—39" Textile 5 Roll Calendar
1—41½" Knit goods calender stainless steel rolls with motor Reeves drive
1—50" 2 Roll Textile Hydraulic Calender, 1 Steel & 1 Cotton Roll. Motor Driven.
1—80" Butterworth 6 Bowl Calender, 3 Cotton, 3 Brass Rolls
9—60" x 48" Smith, D & F and Cleveland 3-cyl. card sets, wooden cyls. with auto. feeders, breast. Apperley Intermediate Feeds, 2-bank condensers.
9—60" x 48" Smith, D & F and Cleveland 3-cyl. card sets, wooden cyls. with auto. feeders, breast. Apperley Intermediate Feeds, 2-bank condensers
3—60" x 60" D & F 3-cyl iron card sets with auto feeders breast, broadband interfeeds, 96 end tape condensers
5—C&M Flock Cutters
3—60" D&F Ring Condensers, Double Bank, Double Apron with Spool Racks

All "Certified"

1—54" x 60" D&F 2-cylinder iron shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—60" Windle 3C Doubler, motor drive
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3—48" V. VL Stainless Steel Dye Jigs Motor Driven

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1—Set 8 Textle Vertical 48"x23" Copper Dry Cans
1—36' P&S Loop Dryer width 8'
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1—7' D&F Iron Cone Duster with Feeder
1—18" Copper Basket Extractor
2—26" Tolhurst Extractors, belt driven
1—32" Tolhurst Copper Basket Extractor
2—48" American Humatic Extractors with Copper Baskets Motor Driven
3—60" Tolhurst Copper Basket Extractors

All "Certified"

3—40", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
200—40" Draper Model K20 Har Dobby Looms
110—45½" reed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven
1—48" C&K 4 x 4 box Loom, 25 harness, belt driven, friction clutch
21—54½" C&K Box 20 & 25 Harness Dobby Looms
51—47 and 52 "R.S." Stafford 2x1 non-auto silk looms, 20 Har Dobbies, motor driven
2—74" Heavy Duck Looms, roller top
12—80" C&K 4 x 1 Auto. 25 harness Veribest Looms, motor driven
14—82" C&K 2 x 1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4 x 4 Box Looms, 25 harness, belt driven

All "Certified"

3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—12 Pole Smith Drum Skein Mercerizer
1—70" King & Gerber Tubing Machine with Veeder-Root counter
10—240-340-360 SP.J. & B. 1⅞ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule

All "Certified"

2—240 Spindle J & B 2" gauge Mules
100—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper
3—80" D&F 20 roll Single and double Acting Nappers

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

- 3—Six to Fourteen Set Woolen Yarn Mills
- A Woolen Piece Goods Finishing Plant
- 3—Worsted Units
- 6—Cotton Mills 3,000-100,000 Spindles 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment
- 1—Novelty Yarn Plants
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1—48" D&F 2-Cyl Wool Opener with Feeder
1—50" Padder two rubber rolls with barrel expander, motor driven
1—40" H&B Single Process Picker with Eveners, Kirschner Beater, Ball Bearing Beaters with Condenser
9—40" Kitson Breaker Pickers, Finisher Pickers and Single Process Pickers, motorized
2—48" C.D. Sargent Burr Pickers
3—48" & 54" Fournaught Pickers
1—86" Voelker Press Motor Dr.
6—52", 65½, 66, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
3—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
2—60" P&W Single Blade Woolen Shears
1—50" Hermas Shear with C&M Stitcher

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11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—42" Firsching 20-knife Slitting Machine
3—Lowell 2' cylinder Slashers
3—240 SP. Mason Spinning Frames, 2" ring, band drive
2—228 Sp. Whitin Spinning Frames, 2" ring, band drive, with latest model W.A.K. hand clocks
3—240 SP Mason Spinning Frames, 2" ring, band drive
6—120 Sp D&F 5½" Ring Tape Dr. Spinners

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1—210 spindle Draper Twister, 2" ring
2—8-string Hemmer Wool Washers
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1—90 Sp. Foster Model 30 Cone Winder

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1—Proctor & Schwartz Loop Dryer 84" wide
1—Morrison Horizontal Extractor, 50"
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1—Butterworth Hydraulic Calender, 7 rolls
1—Mixing Kettle, 50 gals.
1—Perkins Hydraulic Calender, 6 rolls
3—Dye Jiggs, 50" Van Vlaanderen
1—Can Dryer, 23 copper cans, 105"
1—Open Soaper, 4 compartment
8—Dye Becks, S.S. Tanks, S.S. Reels
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1—V. V. Quetsch, 54" wide
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1—Quetsch, 2 roll, 50"
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Worsted Mill—1,000 spindles
Worsted Mill—3,500 spindles

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14—54" C & K 4x4 non-auto
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24—82" Draper 2x1 box
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1—Cohoes Slasher
1—C & M 40" Folder

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27—H & B, 40" Cotton Cards
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2—Woonsocket Slubbers, 11x5½, 72 spindles
2—Whitin Slubbers, 11x5½, 68 spindles
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2—Lowell Twisters, 176 spindles, 3½" ring
18—Whitin D-2 Combers
1—D & F Mule, 390 spindles
5—J & B Mules, 360 spindles
4—D & F Mules, 360 spindles

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1—Foster #101, paper cone
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1—Schofield 42" Carding Rag Picker
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2—P&W 66" Plush Shears
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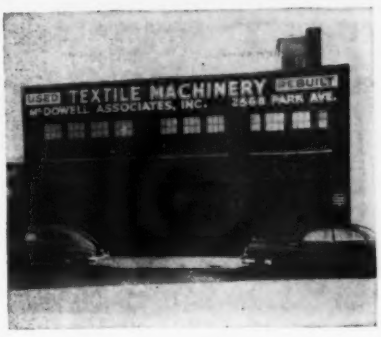

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84—LOOMS, Draper, XP, 60"
20—LOOMS, Draper, D- 66"
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22—LOOMS, Draper, L- 80"
24—LOOMS, Draper, L- 90"
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17—LOOMS, C & K—48" 4 x 4—25 har
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10—LOOMS, C & K—82" 4 x 4—25 har.
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12—LOOMS, C & K—72" 4 x 1—16 har.
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2—SLUBBERS, 10 x 5, long draft, 112 spindles each
12—SLUBBERS, 10 x 5, 112 spindles each
5—SLUBBERS, 11 x 5½", 72 spindles each
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24—SPINNING FRAMES, 224 spindles each, 2¾" gauge, 1⅜" Ring
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1—WINDER, #101, paper cones, 100 spindles
3—WINDERS, #30 Cone, 40-100 spindles, late type, slub catchers and waxers, motor driven
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2—DRYERS, Raw Stock
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3—DYERS, PACKAGE, S. S.
5—DYERS, KLAUDER-WELDON SKEIN
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2—NAPPERS, 72" and 100" single acting, 12 roll
1—PALMER, 64½" x 60" dia., motor driven
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1—Sargent 48" Mixing Picker Unit.
1—C & M 48" Fearnaught Picker Unit.
1—Sargent 6½' Cone Duster.
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Every card is of all Iron Construction, has sleeve bearings. Excellent Clothing. Individual motor driven waste-end return system.
2—D & F 3-cyl. 60 x 60 cards. Whitin Broadbands. Whitin 120-end Tapes.
1—Lombard 3-cyl. 60 x 60 card. Whitin Broadband. Whitin 120-end Tape.
1—D & F 3-cyl. card. 60 x 48" dia., 60 x 60 on 3rd-cyl. Whitin Broadband. Whitin 120-end Tape.
1—Whitin 3-cyl. 48 x 48 card. Whitin Broadband. Whitin 96-end Tape.
5—Platt 2-cyl. 50 x 50 Totally Enclosed Cards. Int. Feed. Whitin 96-end Tapes.
1—Floor Grinder.
1—SACO-PETTEE 40" Sgl. Cyl. Roller Top Cotton Card. Woolen Clothing. M-D.

WOOLEN SPINNING

5—Whitin 96-spdl. Model E 4½" Ring Spg. Frames. Motors. 1934-B.
5—J & B 330-spdl. x 2¼" ga. x 12" spdl. Mules. Rebuilt like new in 1936.
4—J & B 330-spdl. x 2¼" ga. x 12" spdl. Mules. New in 1936.

TWISTING

1—Whitin 200 spdl. x 4" ga. x 3" Ring Model B Twister with Type "C" Novelty Yarn Attachment. 7" tr. Motor. 1938. LIKE NEW.

WINDING—WARPING—SPOOLING

2—Univ. 20-spdl. No. 90 Winders. 10⅛" Auto. Bobbins. M-D.
1—Univ. 96-spdl. Mdl. 60 G. F. Tube or Wood Cone Winder. M-D.
1—Warp. Comp. 40" Hi-Speed 40-end Comp. Jack Spooler, with Magazine Creel. Elec. Stop Motions. M-D. 1939.
1—D & F 40" Sgl. Jackspooler & Creel.
1—BARBER-COLMAN Portable Mdl. G-6 Warp Tying-In Machine.

WEAVING

2—C & K 88" x 16 harness Dble. Index Dobby. 4 x 1 Box. Automatic Looms. 10⅛" Bobbin. Motors.

WET FINISHING

1—Hunter Mdl. K 12-string Cloth Washer 12'.
1—Ceiling Scutcher 90". Dbl. Beaters. Nash Vac Pump. Tank. 2-motors.
1—Goulds No. 4 Soap Pump. M-D.
1—Henry 92" Open Width Soaper. Rubber Squeeze Rolls. Variable Speed. M-D. 1947.
1—Acid Storage Tank 8' dia. x 22' long with steel tower, ladder, etc. 1945.

DRY FINISHING—INSPECTING

1—P & W 72" x 4-cyl. Brushing Machine. Steam Box. M-D. 1944.
3—P & W 66½" Mdl. A Dble. Shears.
1—C & M 69" x 12" Dble. Bed Rotary Cloth Press. M-D.
1—HUNTER 2-Sect. 90" Cloth Conditioner. Taylor Fulscope Temp. Control. Reeves Drive. Pump. Motors. 1941.
2—Inspecting Assemblies with 4-200 cp. Lights. 96" Steel Ball Brg. Cradles. C & M 96" Rolling Up Machines. 100 x ¼ yd. dials. M-D. 1935.
1—P & W 66½" Dbig—Measuring—Winding Mch. 100 x ¼ yd. dial. M-D.
1—J. E. Windle Bbling — Measuring — Winding Machine. 100 x ¼ yd. dial. M-D.

MISCELLANEOUS

1—Ingersoll Rand 22 x 9 Vacuum Pump. No. 75958. Type E-S-1-1941. 300 RPM with 40 H. P. Motor. 1941. Suitable for Card Stripping System.
500M—Auto. 10¼" Loom Bobbins.
Card Spools—Trucks—Frame & Mule Bobbins—Twister Bobbins — Cloth Trucks — Scales — Steel Shelving—Box Trucks—Parts & Supplies usually found in this type plant.

INSPECTION At Plant during Regular Business Hours. Ask for Mr. L. O. FULCHER, 'phone Leaksville, N. C. 512.

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28—Woonsocket 40" Cards, 12" Coilers, 100/110 wire, Motor Driven
10—Fales & Jencks Spinning Frames, 252 Spindles. Each, 3¾" Gauge, Tape Drive, Motor Driven.
15—Fales & Jencks Spinning Frames, 240 Spindles Each, 3" Gauge, Tape Drive, Motor Driven.
8—Saco Pettee Spinning Frames, 228 Spindles Each, 3¼" Gauge, Band Drive, Motor Driven.
80—Saco Pettee Spinning Frames, 224 Spindles Each, 2¾" Gauge, Band Drive, Motor Driven.
2—Barber Colman High Speed Spoolers, Model KK 120 and 140 spindles each.
2—Barber Colman High Speed Warpers, Model HC with Magazine Creels.
1—Entwistle High Speed Warpers with Magazine Creel.
176—Draper Model E Looms, 41" Reed Space, Motor Driven.
10—Draper Model E Looms, 43" Reed Space, Motor Driven.

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34" Reed Space—4x1 Box Crompton & Knowles Non Automatic—Belt Driven. Ten of them with 25 Harness Dobbies and ten with 18 Harness Dobbies. Can be seen in operation on our Weave Room Floor. Price $125.00 each—F.O.B. cars.

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20—Deliveries of Saco Lowell Drawing, 1923 Model, 4 Deliveries per frame, 12" coilers, metallic rolls, spiral gears, New trumpets, hank clocks. This Drawing has recently been overhauled.
12—Deliveries of Saco Lowell Drawing, 1925 Model, 6 deliveries per frame, 12" coilers.
1—Barber Colman Stationary Warp Tying-in Machine, Model 9E. Will tie up to 86" Warps. Complete with generator and generator motor.
1—Barber Colman Model K Portable Tying-in Machine. Equipped with B&C Knotter heads.
1—102 Foster Winder, double motor drive for wooden tubes.
4—Barber Colman High Speed Warpers and Creels, 432 ends per creel, Warper Model HW.
400—Hopedale Looms, 40" Cloth, motor driven with motor.
1—Cohoes Double Cylinder Slasher complete with size box.
3—H&B Single Process Pickers, motor driven with motor.
1—Platt Roller Top Waste Card with Bramwell feed.
53—H&B 40" Cards, 12" coilers, thoroughly rebuilt with new flats and new clothing.
10—Frames H&B Spinning, 3¾" gauge, 2 Ring, 228 Spindles each, band drive, equipped with Whitin Long Draft.

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1—Davis & Furber 20 roll Napping Machine, set up in operating condition at Ilion (near Utica), New York.
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4—Hoffman Steam Presses with individual motors, with automatic push button control, size 24 x 60.
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1—40 Spindle Foster Cone Winding Machine, Model 12.

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Put this MACHINERY & EQUIPMENT Right into PRODUCTION!!

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20 Universal #50, Gear Gainer, motorized, 220 volts, 3 phase, anti-wear Tensions, 3-30 Tapir Cones, in excellent operating condition.

12 SAME AS ABOVE EXCEPT BELT GAINER

6 FOSTER MODEL 75-A For COTTON; Motorized, complete with Waxing Attachments.

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MOTORIZED 1934 MODEL
6" Gauge Single Deck Twisters

4—80 spindle machines and 3—70 spindle with 6⅛" centers, 3½" wide cork covered take-up pulleys, 4½" diam. motor pulleys, 3 HP General Electric motors with starting switches. 220 volts, 60 cycles. Machines in excellent condition. Excellent Bobbin Equipment Available for These Machines at Low Cost.

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All individually Motorized 2 HP, 3 Phase 440 Volts, 60 cycle motors. Bobbin Equipment with all machines.
4—100 spindle, 5¼" spacing, 3" Eadie rings, single 2" feed rolls.
4—112 spindle, 5¼" spacing, 3⅛" Whitin, single 2" feed rolls.

13 FLETCHER
5 B SPINNERS

All individually Motorized 3 HP, 3 phase 220-440 volts, 60 cycles, 84 spindles, 5¼" spacing, 3⅛" Whitin rings, double 2" feed rolls. Excellent condition. Bobbin Equipment with machines.

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7 Late Type
U. S. Textile Redraws
80 Spindles MOTORIZED

Complete with Tensions, etc.

8 ATWOOD SKEIN WINDERS

FOR SILK OR RAYON
100 SPINDLES EACH
INDIVIDUALLY MOTORIZED

NARROW FABRIC EQUIPMENT and PARTS

1 KNAPP DIRECT WARPER Hi-Speed Up to 18" Beam

Completely reconditioned with Reed Stand. Individually motorized with 2 H.P. 220 volts motor. Electro bars and automatic stop motion attachment. Can be run from magazine cone creel or V creel. Creel available.

1 SIPP EASTWOOD 504 END MAG. TYPE CREEL

Electric Stop Motion Disc—Washboard Ten. Large Rayon or Cotton Cone.

MOSSBERG ALL STEEL BEAMS

1,000—12" head, 10½" trav.	1,000— 9" head, 3" trav.
500—12" head, 18½" trav.	300—18" head, 10½" trav.
600—10" head, 3" trav.	300—18" head, 12" trav.
2,000— 9" head, 2" trav.	300—18" head, 6" trav.

1,000 Fletcher Automatic Let-Offs
4 pin & 6 pin

15,000 Fibre WARP SPOOLS
3½" Fiberhead, 8½" Traverse
1½" Bar, 9/16" Bore 9" Overall

Also Spring Strips, Weights, Top Castles, Heddles, Harness Frames and Other Parts.

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60" Wide 30" Diameter Drums

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Stainless steel drums, 5 beam take ups double Quetsch, Reliance single motor variable speed drive 15 H.P., 1150 R.P.M. Taylor instruments and piping. Special reeds 1½" wide, Johnson joints bearings and flexible tubing.

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225 2 H.P.	1200 R. P. M.
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BRUGGER ALL-METAL SWIFTS

Adjustable
5 M FOR SILK
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EXCELLENT CONDITION

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Gem Heads
68" Wide Indiv.
Motorized, 220 - 3 phase -
Center stop Motions

One Pound Package Spools For Winding-Re-Draw, Steaming

30,000 St. Steel Head 4½"	2,500 5-B-Spinner	35,000 Winding, Re-draw	35,000 Winding Re-draw
Steaming 4⅜" Trav.	3½" Fibre Head	3⅝" Fibre Head	3¾" Metal Head
Shafts 2" Bar.	6" Traverse	5" Traverse	5" Traverse
	1¾" Barrel	2" Barrel	1½" Cardboard Bar.

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LIKE NEW CONDITION
3 phase, 220 volts
60 cycle motors

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1—60" Fletcher—Motorized
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16,000 lbs. All Wool Knitting Yarn.
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Enough to equip 10,000 to 20,000 Spindles less a few Miscellaneous Parts.
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All Stainless Steel—60" Basket
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DYE BECK, 2' Sample, stainless steel lined
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EXTRACTORS, Beam 50" & 60" B.B.
EXTRACTOR, K&G 48" rubber lined basket
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PADDER, 90"
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14—Draper 80" reed space Automatic loom 28 Battery Cam modern Modified D Individual motor driven ¾ HP motors. Mechanical warp stop motions completely equipped.
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10,000—Size 17⅞" ID x 21⅛" OD x 63¼" long. Both ends rounded.

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20 Warp Dollies and trucks

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1 Sectional Vertical Dryer consisting of 25 Copper Dry Cans, with engine, reels and drums.

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Crompton & Knowles and Draper parts new and used

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14M Automatic Quills 8"

9M Automatic Quills 7⅜"

32 80½" Reedspace Draper Automatic Quill Change, Double Drive Looms, individually motor driven, with electric stop motion, some equipped with 600 hook, double lift Jacquard machines.

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THROWING PLANT in running condition with 9,000 square feet of floor space, consisting of 14 Winders, 29 Spinners, 2 Reeling Machines, 4 Universal #50 Coning Machines and 1 Soaking Bath and Extractor Machine, Office Supplies and Parts.

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28 72" cloth space, modified "D" Draper Cam Looms, belt driven, mechanical warp stop motions.
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5 No. 90 Universal quillers, individually motor driven.
4 Hermas inspection and measuring machines.
18" and 20" flange beams; silk, rayon and cotton harnesses.

NEW G.E. AND WESTINGHOUSE LOOM MOTORS

½ HP to 1½ HP, 1200 or 1800 RPM, all 3/60/220

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12 C&K 100" Box Looms 4x4 25 Harness Gem Head Motion, Elect. Stop Motion, Motor Driven.
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18 Draper 70" Auto Looms—20 Harness Dobby Heads, Friction let off, mechanical stop motion, belt drive.
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20 Stafford 50" auto Shuttle Changing Rayon looms, 20/25 Harness Dobby Heads, Draper slide bar stop motion, motor driven
26 Draper E Auto Looms 42" Roller Tops—Belt Drive.
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3 Foster #12 Cone Winders 80 Spindles—Motor Driven.
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750 Good fibre steel clad 10" roving cans.
50 Westinghouse Textile Loom Motors 1 H.P. 1800 3/60/220-V Late Type Frame—Rebuilt.
12 G.E. Textile Loom Motors 1 H.P. 1800 RPM 3/60/220-V, Late Type Frame—Rebuilt.
10 Westinghouse Spinning Frame Motors—10 H.P. 1800 RPM 3/60/550-V.
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3 G.E. Motors 5 H.P., 60/3/220-V.
3 G.E. Motors 3 H.P., 60/3/550-V.
1 Robbins & Myers—30 H.P. Motor 1200 RPM 60/3/550-V.
6 New B&S #980 Grain Scales
2 New B&S #975 54" Yarn Reels
250 Veeder-Root Two-Shift Resettable Pick Counters—Complete with drive Assembly.
500 Veeder-Root Two-Shift non resettable Pick Counters Complete with Drive Assembly.
750 Waltham Two-Shift, Reset & Non-Reset Pick Counters complete.
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36 C&K 92" Loom Beams 22" Flanges.
750 Metal Bobbin Boards 30"x3".
750 New Rawhide Pickers 3"x3".
50 pr. 6 Bank Worsted Style Electrode Holders with post Brackets and angles.
50 pr. 4 bank ditto.
50,000 New KA Electric Worsted Drop wires.
100,000 New KA Electric Rayon Drop Wires
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1 Ebco "Oasis" Elec. Water Cooler.
80 All Steel Loom Beams 46" Warp with 18" adj. heads.

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6—24" 12 Feed Wildman Circular Knitting Machines
or Equals in 16 Feed
MUST BE IN FIRST CLASS CONDITION
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60 to 64 inches wide.
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TEXTILE MACHINERY and SUPPLIES

We buy and sell all types of Textile Machinery and Equipment ranging from individual machines to complete plants. Our activities comprise all branches of equipment.

for SPINNING and WEAVING

as well as Dyeing, Printing and Finishing

of Cotton, Wool, Silk and Synthetic Fibres

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Over 35 years of specialized experience in appraising and liquidating plants of all kinds, PLUS a thorough knowledge of the foreign textile producing centers enables us to do a first rate consulting engineering job.

Liquidators and Exporters — **Complete Plants Our Specialty**

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3—Lowell Machine Slashers, 7' & 5' Cyl.
1—Philadelphia Hurricane Raw Stock Dryer.
3—Tolhurst Centrifugal Extractors 48" Dia.
1—American 48" Centrifugal Extractor.
24—48" 12 Harness 2 x 1 C & K Automatic Looms.
1—Woonsocket 86" - 24 roll Double Acting Ball Bearing Napper, motor driven—year 1944.
70—#90 Universal Winders, each winder has individual Motor.
2—Saco Lowell #6 Condensers.
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3—D&F Tape Condensers.
2—Hunter #10 Fulling Mills.
3—Atwood 5B Twisters 96 spindles 2½" & 3" rings, M.D.
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(Continued from page 272)

AVAILABLE—PLASTIC Expert: Practical and technical experience in winding, warping, weaving and finishing of all "Saran" yarns, for the automobile, upholstery and pocketbook trades. Well versed in fabric designing, construction and production control. Last position executive's assistant in modern plastic mill. Excellent references. PW-5575, Textile World.

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Would like to contact Mill

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Fabrics developed,

Samples woven on my own looms. Expert technician. SS-4667, Textile World.

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3 D&F Bar type Mixing Pickers, 48"

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1 D&F Duster, Model 155

1 Kitson Rag Picker

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1—Set Copper Cans, 11-72".
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Three (3)—48 inch extractors.

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2—H&B Single Beater Waste Machines
4—42"x42" Size Kettles, copper lined, double agitators

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USED TEXTILE MACHINERY AND SUPPLIES
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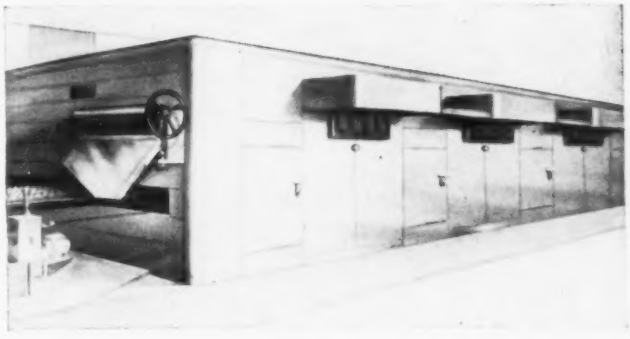

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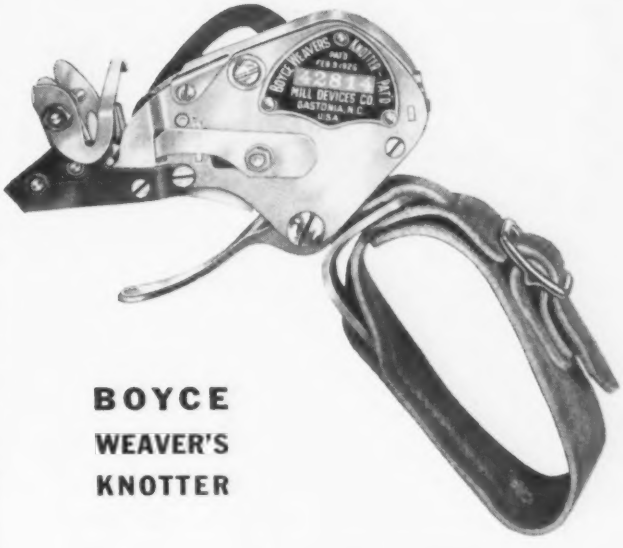

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KNOTTER

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In one fast, smooth action this mechanical marvel ties a perfect weaver's knot and clips the ends clean and even.

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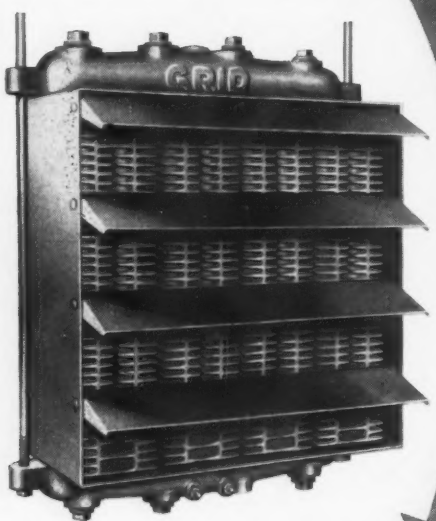

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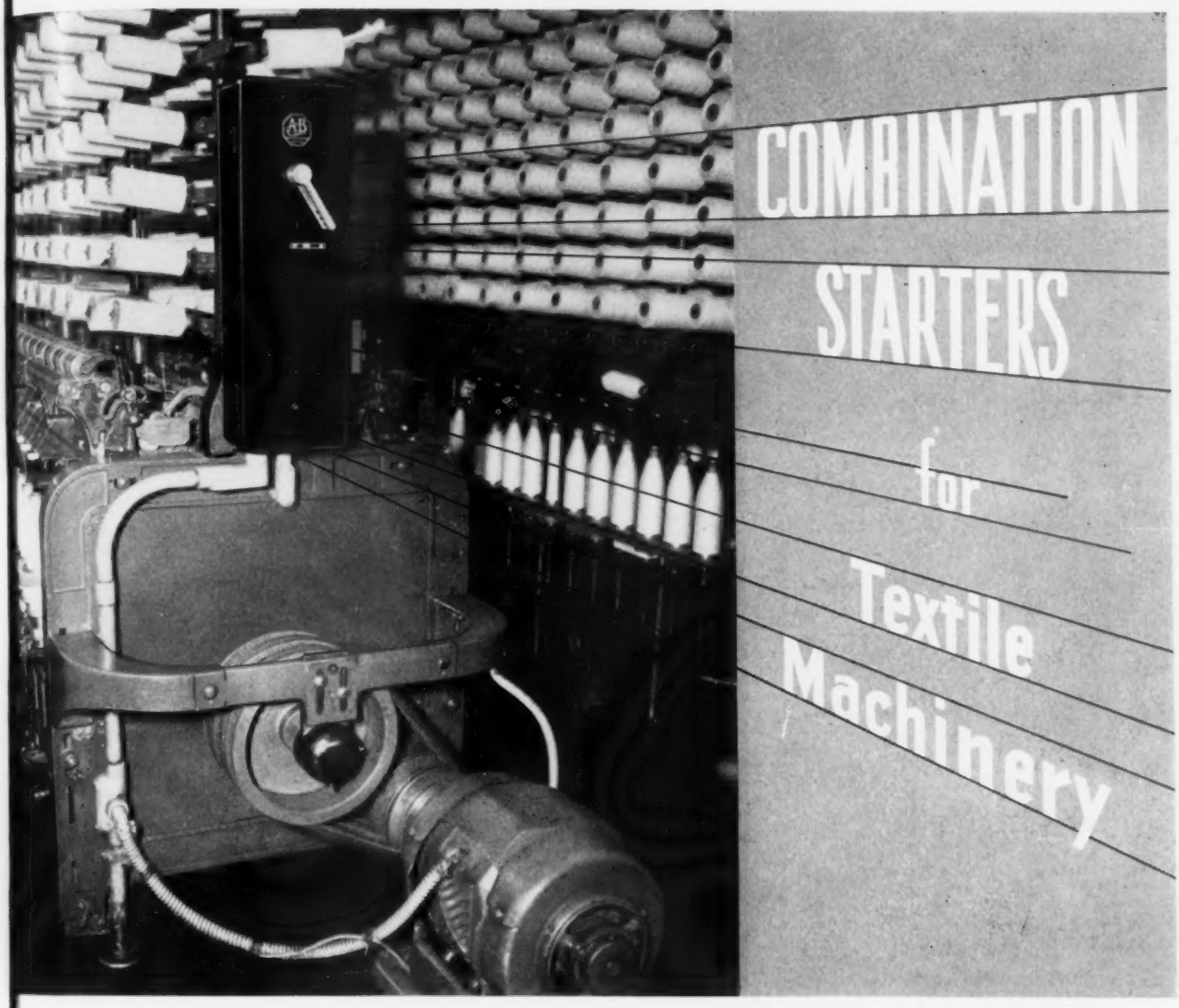

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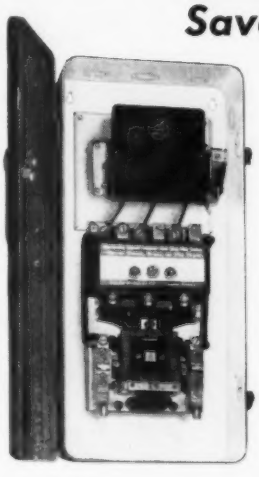

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